



SEQUENCE LISTING

<110> EDELMAN, LENA

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BRIAND, JEAN-PAUL

<120> CHIMERIC MOLECULES CONTAINING A MODULE ABLE TO TARGET
SPECIFIC CELLS AND A MODULE REGULATING THE APOPTOGENIC
FUNCTION OF THE PERMEABILITY TRANSITION PORE COMPLEX
(PTPC)

<130> 02356-0083

<140> 10/627,649

<141> 2003-07-28

<150> 60/265,594

<151> 2001-02-02

<160> 325

<170> PatentIn Ver. 2.1

<210> 1

<211> 10517

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: vector pACgp67-ScFv461

nucleotide sequence

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<221> CDS

<222> (1)..(10515)

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Asp Lys Ile Glu Ser Thr Cys Lys Met Phe Pro Ala Arg Trp His

15 20 25

aac tat tta caa tgc ggc caa gtt ata aaa gat tct aat ctg ata tgt 144

Asn Tyr Leu Gln Cys Gly Gln Val Ile Lys Asp Ser Asn Leu Ile Cys

30 35 40 45

ttt aaa aca cct ttg cgg ccc gag ttg ttt gcg tac gtg act agc gaa 192

Phe Lys Thr Pro Leu Arg Pro Glu Leu Phe Ala Tyr Val Thr Ser Glu

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gaa gat gtg tgg acc gca gaa cag ata gta aaa caa aac cct agt att 240

Glu Asp Val Trp Thr Ala Glu Gln Ile Val Lys Gln Asn Pro Ser Ile

65 70 75

gga gca ata atc gat tta acc aac acg tct aaa tat tat gat ggt gtg 288

Gly Ala Ile Ile Asp Leu Thr Asn Thr Ser Lys Tyr Tyr Asp Gly Val

80 85 90

cat ttt ttg cgg gcg ggc ctg tta tac aaa aaa att caa gta cct ggc 336

His Phe Leu Arg Ala Gly Leu Leu Tyr Lys Lys Ile Gln Val Pro Gly

95 100 105

cag act ttg ccg cct gaa agc ata gtt caa gaa ttt att gac acg gta 384

Gln Thr Leu Pro Pro Glu Ser Ile Val Gln Glu Phe Ile Asp Thr Val

110 115 120 125

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Lys Glu Phe Thr Glu Lys Cys Pro Gly Met Leu Val Gly Val His Cys

130 135 140

aca cac ggt att aat cgc acc ggt tac atg gtg tgc aga tat tta atg 480

Thr His Gly Ile Asn Arg Thr Gly Tyr Met Val Cys Arg Tyr Leu Met

145 150 155

cac acc ctg ggt att gcg ccg cag gaa gcc ata gat aga ttc gaa aaa 528

His Thr Leu Gly Ile Ala Pro Gln Glu Ala Ile Asp Arg Phe Glu Lys

160 165 170

gcc aga ggt cac aaa att gaa aga caa aat tac gtt caa gat tta tta 576

Ala Arg Gly His Lys Ile Glu Arg Gln Asn Tyr Val Gln Asp Leu Leu

175 180 185

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Ile Leu Ile Leu Phe Ala Phe Phe Asn Lys Tyr Phe Ile Leu Phe

190 195 200

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205 210 215 220

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Ser Val Leu Val Ala Asp Gln Trp Arg Cys Ser Asn Arg Arg
 225 230

gat tag gcc gga tat tct cca cca caa tgt tgg caa cgt tga tgt tac 768
Asp Ala Gly Tyr Ser Pro Pro Gln Cys Trp Gln Arg Cys Tyr
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Val Tyr Ala Phe Gly Phe Pro Arg Thr Ser Phe Gly Arg Pro
 250 255 260

taa acg tag tgc cgt cgc gcg tca cgc aca aca ccg gat gtt tgc gct 864
Thr Cys Arg Arg Ala Ser Arg Thr Thr Pro Asp Val Cys Ala
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Cys Pro Arg Gly Ile Glu Pro Arg Asp Pro Thr Asn Pro Pro Leu Trp
 280 285 290

caa cta aat cgg tga cct gcg cgt ctt ttt tct gca tta ttt cgt ctt 960
Gln Leu Asn Arg Pro Ala Arg Leu Phe Ser Ala Leu Phe Arg Leu
 295 300 305

tct ttt gca tgg ttt cct gga agc cgg tgt aca tgc ggt tta gat cag 1008
Ser Phe Ala Trp Phe Pro Gly Ser Arg Cys Thr Cys Gly Leu Asp Gln
 310 315 320

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Ser Arg Ala Pro Ala Asn Leu Trp Pro Arg Ser Ala Cys Pro

325 330 335

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Trp Gln Arg Cys Val Gln Thr Leu Val Phe Gln Val Pro

340 345 350

cgg ttt ttt gcg cca cca ccg ctt gca gcg cgt ttg tgt gct cgg tga 1152

Arg Phe Phe Ala Pro Pro Pro Leu Ala Ala Arg Leu Cys Ala Arg

355 360 365

atg tcg caa tca gct tag tca cca act gtt tgc tct cct cct ccc gtt 1200

Met Ser Gln Ser Ala Ser Pro Thr Val Cys Ser Pro Pro Pro Val

370 375 380

gtt tga tcg cgg gat cgt act tgc cgg tgc aga gca ctt gag gaa tta 1248

Val Ser Arg Asp Arg Thr Cys Arg Cys Arg Ala Leu Glu Glu Leu

385 390 395

ctt ctt cta aaa gcc att ctt gta att cta tgg cgt aag gca att tgg 1296

Leu Leu Leu Lys Ala Ile Leu Val Ile Leu Trp Arg Lys Ala Ile Trp

400 405 410

act tca taa tca gct gaa tca cgc cgg att tag taa tga gca ctg tat 1344

Thr Ser Ser Ala Glu Ser Arg Arg Ile Ala Leu Tyr

415 420

gcg gct gca aat aca gcg ggt cgc ccc ttt tca cga cgc tgt tag agg 1392

Ala Ala Ala Asn Thr Ala Gly Arg Pro Phe Ser Arg Arg Cys Arg
425 430 435

tag ggc ccc cat ttt gga tgg tct gct caa ata acg att tgt att tat 1440
Gly Pro His Phe Gly Trp Ser Ala Gln Ile Thr Ile Cys Ile Tyr
440 445 450

tgt cta cat gaa cac gta tag ctt tat cac aaa ctg tat att tta aac 1488
Cys Leu His Glu His Val Leu Tyr His Lys Leu Tyr Ile Leu Asn
455 460 465

tgt tag cga cgt cct tgg cca cga acc gga cct gtt ggt cgc gct cta 1536
Cys Arg Arg Pro Trp Pro Arg Thr Gly Pro Val Gly Arg Ala Leu
470 475 480

gca cgt acc gca ggt tga acg tat ctt ctc caa att taa att ctc caa 1584
Ala Arg Thr Ala Gly Thr Tyr Leu Leu Gln Ile Ile Leu Gln
485 490 495

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Phe Arg Glu Pro Phe Tyr Thr Cys Val Asp Phe Ala Thr Thr
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Ile Val Phe Arg Lys Leu Asn Leu Leu Trp Ala Ile Ile Lys
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tat ggg gga aca tgc gcc gct aca aca ctc gtc gtt atg aac gca gac 1728
Tyr Gly Gly Thr Cys Ala Ala Thr Thr Leu Val Val Met Asn Ala Asp
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ggc gcc ggt ctc ggc gca agc ggc taa aac gtg ttg cgc gtt caa cgc 1776

Gly Ala Gly Leu Gly Ala Ser Gly Asn Val Leu Arg Val Gln Arg

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ggc aaa cat cgc aaa agc caa tag tac agt ttt gat ttg cat att aac 1824

Gly Lys His Arg Lys Ser Gln Tyr Ser Phe Asp Leu His Ile Asn

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ggc gat ttt tta aat tat ctt att taa taa ata gtt atg acg cct aca 1872

Gly Asp Phe Leu Asn Tyr Leu Ile Ile Val Met Thr Pro Thr

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Thr Pro Arg Pro Arg Leu Ala Ala Pro Arg Ala Val Arg Arg

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Leu Pro Pro Cys Gly Arg Thr Arg Arg Ala Gly Gly Arg Pro Ala

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Ala Cys Arg Thr Arg Arg Thr Ser Ile Cys Thr Pro Asn Asp Arg Arg

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gcg aag gca cgt cgg cct cca agt ggc aat att ggc aaa ttc gaa aat 2064

Ala Lys Ala Arg Arg Pro Pro Ser Gly Asn Ile Gly Lys Phe Glu Asn

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Ile Tyr Ser Trp Val Val Cys Ala Tyr Leu Ser Trp Arg Trp Ala Cys

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Thr Ser Glu Arg Phe Ala Cys Lys Pro Lys Leu Asn His Cys Asp

665 670 675

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Cys Asp Asn Val Val His Pro Arg Phe Ser Cys Arg Arg

680 685 690

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695 700 705

ctt tgt att ccc gag tca agc gca gcg cgt att tta aca aac tag cca 2304

Leu Cys Ile Pro Glu Ser Ser Ala Ala Arg Ile Leu Thr Asn Pro

710 715 720

tct tgt aag tta gtt tca ttt aat gca act tta tcc aat aat ata tta 2352

Ser Cys Lys Leu Val Ser Phe Asn Ala Thr Leu Ser Asn Asn Ile Leu

725 730 735

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Cys Ile Ala Arg Gln Glu Leu Thr Met Arg Pro Leu Ser His Leu Asn

740 745 750

acg act atg ata gag atc aaa taa agc gcg aat taa ata gct tgc gac 2448

Thr Thr Met Ile Glu Ile Lys Ser Ala Asn Ile Ala Cys Asp

755 760 765

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Ala Thr Cys Thr Ile Cys Ala Arg Val Pro Ala Arg Ala Leu Ile Val
770 775 780

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Ile Ser Phe Tyr Glu Ala Met Thr Pro Pro Gln Arg Ser
785 790 795

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Arg Pro Lys Glu Leu Pro Thr Thr Lys Leu Pro Ser Met Ser Val Thr
800 805 810

tta aaa cta tta agc cat cca atc gac cgt tag tcg aat cag gac cgc 2640
Leu Lys Leu Leu Ser His Pro Ile Asp Arg Ser Asn Gln Asp Arg
815 820 825

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Trp Cys Glu Lys Pro Arg Ser Met Ala Asn Ala Ser Tyr Asn Val Trp
830 835 840

agt ccg ctc att aga gcg tca tgt tta gac aag aaa gct aca tat tta 2736
Ser Pro Leu Ile Arg Ala Ser Cys Leu Asp Lys Lys Ala Thr Tyr Leu
845 850 855

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Ile Asp Pro Asp Asp Phe Ile Asp Lys Leu Thr Leu Thr Pro Tyr Thr
860 865 870

gta ttc tac aat ggc ggg gtt ttg gtc aaa att tcc gga ctg cga ttg 2832

Val Phe Tyr Asn Gly Gly Val Leu Val Lys Ile Ser Gly Leu Arg Leu
875 880 885 890

tac atg ctg tta acg gct ccg ccc act att aat gaa att aaa aat tcc 2880
Tyr Met Leu Leu Thr Ala Pro Pro Thr Ile Asn Glu Ile Lys Asn Ser
 895 900 905

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 910 915 920

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Glu Gly Lys Lys Asn Val Val Asp Met Leu Asn Asn Lys Ile Asn Met
 925 930 935

cct ccg tgt ata aaa aaa ata ttg aac gat ttg aaa gaa aac aat gta 3024
Pro Pro Cys Ile Lys Lys Ile Leu Asn Asp Leu Lys Glu Asn Asn Val
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ccg cgc ggc ggt atg tac agg aag agg ttt ata cta aac tgt tac att 3072
Pro Arg Gly Gly Met Tyr Arg Lys Arg Phe Ile Leu Asn Cys Tyr Ile
955 960 965 970

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 975 980 985

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Ala Leu Thr His Phe Tyr Asn His Asp Ser Lys Cys Val Gly Glu Val
 990 995 1000

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Met His Leu Leu Ile Lys Ser Gln Asp Val Tyr Lys Pro Pro Asn

1005 1010 1015

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Cys Gln Lys Met Lys Thr Val Asp Lys Leu Cys Pro Phe Ala Gly

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aac tgc aag ggt ctc aat cct att tgt aat tat tga ata ata aaa 3303

Asn Cys Lys Gly Leu Asn Pro Ile Cys Asn Tyr Ile Ile Lys

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Gln Leu Met Leu Asn Leu Phe Phe Ile Asn Asp Thr Asn Gln

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Thr Gln Gln Glu His Leu Tyr Tyr Leu Leu Lys Thr Arg Ser

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Tyr Asn Arg Gly Asn Ile Asn His Phe Gln Met Ile His

1075 1080 1085

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Ser Phe Ala Thr Ile Phe Tyr Phe His Ile Asn Thr

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Pro Cys Arg Leu Leu Leu Arg Ile Pro Ser Leu Phe His Phe Ser
1100 1105 1110

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Pro His Lys Asn His Ser Tyr Tyr Arg Ile His Ile Cys Ile
1115 1120 1125

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Tyr Arg Ile Glu Ile Phe Cys Cys His Lys Tyr Ile Cys Leu
1130 1135 1140

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1170 1175 1180

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Cys Thr Ile Cys Cys Arg His Ser Thr Gln Leu Leu Leu Val Gln
1185 1190 1195

tta cac cat ttt tta gca gca ccg gat taa cat aac ttt cca aaa 3846
Leu His His Phe Leu Ala Ala Pro Asp His Asn Phe Pro Lys
1200 1205 1210

tgt tgt acg aac cgt taa aca aaa aca gtt cac ctc cct ttt cta 3891

Cys Cys Thr Asn Arg Thr Lys Thr Val His Leu Pro Phe Leu

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Tyr Tyr Cys Leu Arg Ala Val Val Cys Cys Lys Gln Pro Leu

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Asp Ala Gln Thr Asn Ile Thr Asn Trp Lys Cys Leu Ser

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ata tat agt tgc tga tat cat gga gat aat taa aat gat aac cat 4029

Ile Tyr Ser Cys Tyr His Gly Asp Asn Asn Asp Asn His

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Leu Ala Asn Lys Val Phe Tyr Cys Phe Arg Asn Ser Phe Val

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atc ggg cgc gga tct atg cta cta gta aat cag tca cac caa ggc 4164

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Phe Asn Lys Glu His Thr Ser Lys Met Val Ser Ala Ile Val Leu
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tat gtg ctt ttg gcg gcg gcg gcg cat tct gcc ttt gcg gcg gat 4254
Tyr Val Leu Leu Ala Ala Ala Ala His Ser Ala Phe Ala Ala Asp
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ctt gga tcc cat cat cac cac cac att gaa gga aga gaa ttc 4299
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Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Pro Ser
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Gln Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Thr
1370 1375 1380

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Ser Tyr Gly Val Ser Trp Val Arg Gln Pro Pro Gly Lys Gly Leu
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Ser Gln Val Phe Ser Lys Leu Asn Ser Leu Gln Thr Asp Asp Thr
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Ala Thr Tyr Tyr Cys Ala Lys Arg Gly Gly Tyr Gly Asn Tyr Tyr
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Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
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1475 1480 1485

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Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val
1490 1495 1500

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Gly Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Ser
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His Tyr Ser Thr Pro Pro Thr Phe Gly Gly Gly Thr Lys Leu Gly
1580 1585 1590

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Thr Lys Arg Ala Pro Gly Gly Cys Arg Ser Asp Pro Phe Leu
1595 1600 1605

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Gly Pro Gly Lys Asn Gln Lys Leu Thr Leu Phe Lys Glu Ile Arg
1610 1615 1620

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Asn Val Lys Pro Asp Thr Met Lys Leu Val Val Gly Trp Lys Gly
1625 1630 1635

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Lys Glu Phe Tyr Arg Glu Thr Trp Thr Arg Phe Met Glu Asp Ser
1640 1645 1650

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Phe Pro Ile Val Asn Asp Gln Glu Val Met Asp Val Phe Leu Val
1655 1660 1665

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Val Asn Met Arg Pro Thr Arg Pro Asn Arg Cys Tyr Lys Phe Leu
1670 1675 1680

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Ala Gln His Ala Leu Arg Cys Asp Pro Asp Tyr Val Pro His Asp
1685 1690 1695

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Val Ile Arg Ile Val Glu Pro Ser Trp Val Gly Ser Asn Asn Glu
1700 1705 1710

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Tyr Arg Ile Ser Leu Ala Lys Lys Gly Gly Gly Cys Pro Ile Met
1715 1720 1725

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Asn Leu His Ser Glu Tyr Thr Asn Ser Phe Glu Gln Phe Ile Asp
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Arg Val Ile Trp Glu Asn Phe Tyr Lys Pro Ile Val Tyr Ile Gly
1745 1750 1755

acc gac tct gct gaa gag gag gaa att ctc ctt gaa gtt tcc ctg 5559

Thr Asp Ser Ala Glu Glu Glu Glu Ile Leu Leu Glu Val Ser Leu
1760 1765 1770

gtg ttc aaa gta aag gag ttt gca cca gac gca cct ctg ttc act 5604
Val Phe Lys Val Lys Glu Phe Ala Pro Asp Ala Pro Leu Phe Thr
1775 1780 1785

ggc ccg gcg tat taa aac acg ata cat tgt tat tag tac att tat 5649
Gly Pro Ala Tyr Asn Thr Ile His Cys Tyr Tyr Ile Tyr
1790 1795 1800

taa gcg cta gat tct gtg cgt tgt tga ttt aca gac aat tgt tgt 5694
Ala Leu Asp Ser Val Arg Cys Phe Thr Asp Asn Cys Cys
1805 1810

acg tat ttt aat aat tca tta aat tta taa tct tta ggg tgg tat 5739
Thr Tyr Phe Asn Asn Ser Leu Asn Leu Ser Leu Gly Trp Tyr
1815 1820 1825

gtt aga gcg aaa atc aaa tga ttt tca gcg tct tta tat ctg aat 5784
Val Arg Ala Lys Ile Lys Phe Ser Ala Ser Leu Tyr Leu Asn
1830 1835 1840

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Leu Asn Ile Lys Ser Ser Ile Asp Leu Asn Arg Phe Arg Leu
1845 1850 1855

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Val Ser Asn Lys Gly Cys Phe Ser Glu Pro Met Ala Gly Leu Ser
1860 1865 1870

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 Asn Gly Phe Ser Leu Asn Ala Thr Lys Leu Ala Lys Ser Cys Ser
 1875 1880 1885

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 Ser Asn Leu Ala Leu Ser Ile Phe Val Cys Val Leu Phe Cys Asn
 1890 1895 1900

aaa ggt tcg acg tcg ttc aaa ata tta tgc gct ttt gta ttt ctt 6009
 Lys Gly Ser Thr Ser Phe Lys Ile Leu Cys Ala Phe Val Phe Leu
 1905 1910 1915

tca tca ctg tcg tta gtg tac aat tga ctc gac gta aac acg tta 6054
 Ser Ser Leu Ser Leu Val Tyr Asn Leu Asp Val Asn Thr Leu
 1920 1925 1930

aat aaa gct tgg aca tat tta aca tcg ggc gtg tta gct tta tta 6099
 Asn Lys Ala Trp Thr Tyr Leu Thr Ser Gly Val Leu Ala Leu Leu
 1935 1940 1945

ggc cga tta tcg tcg tcg tcc caa ccc tcg tcg tta gaa gtt gct 6144
 Gly Arg Leu Ser Ser Ser Ser Gln Pro Ser Ser Leu Glu Val Ala
 1950 1955 1960

tcc gaa gac gat ttt gcc ata gcc aca cga cgc cta tta att gtg 6189
 Ser Glu Asp Asp Phe Ala Ile Ala Thr Arg Arg Leu Leu Ile Val
 1965 1970 1975

tcg gct aac acg tcc gcg atc aaa ttt gta gtt gag ctt ttt gga 6234

Ser Ala Asn Thr Ser Ala Ile Lys Phe Val Val Glu Leu Phe Gly
1980 1985 1990

att att tct gat tgc ggg cgt ttt tgg gcg ggt ttc aat cta act 6279
Ile Ile Ser Asp Cys Gly Arg Phe Trp Ala Gly Phe Asn Leu Thr
1995 2000 2005

gtg ccc gat ttt aat tca gac aac acg tta gaa agc gat ggt gca 6324
Val Pro Asp Phe Asn Ser Asp Asn Thr Leu Glu Ser Asp Gly Ala
2010 2015 2020

ggc ggt ggt aac att tca gac ggc aaa tct act aat ggc ggc ggt 6369
Gly Gly Gly Asn Ile Ser Asp Gly Lys Ser Thr Asn Gly Gly Gly
2025 2030 2035

ggt gga gct gat gat aaa tct acc atc ggt gga ggc gca ggc ggg 6414
Gly Gly Ala Asp Asp Lys Ser Thr Ile Gly Gly Gly Ala Gly Gly
2040 2045 2050

gct ggc ggc gga ggc gga ggc gga ggt ggt ggc ggt gat gca gac 6459
Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Asp Ala Asp
2055 2060 2065

ggc ggt tta ggc tca aat gtc tct tta ggc aac aca gtc ggc acc 6504
Gly Gly Leu Gly Ser Asn Val Ser Leu Gly Asn Thr Val Gly Thr
2070 2075 2080

tca act att gta ctg gtt tcg ggc gcc gtt ttt ggt ttg acc ggt 6549
Ser Thr Ile Val Leu Val Ser Gly Ala Val Phe Gly Leu Thr Gly
2085 2090 2095

ctg aga cga gtg cga ttt ttt tcg ttt cta ata gct tcc aac aat 6594
Leu Arg Arg Val Arg Phe Phe Ser Phe Leu Ile Ala Ser Asn Asn
2100 2105 2110

tgt tgt ctg tcg tct aaa ggt gca gcg ggt tga ggt tcc gtc ggc 6639
Cys Cys Leu Ser Ser Lys Gly Ala Ala Gly Gly Ser Val Gly
2115 2120

att ggt gga gcg ggc ggc aat tca gac atc gat ggt ggt ggt ggt 6684
Ile Gly Gly Ala Gly Gly Asn Ser Asp Ile Asp Gly Gly Gly Gly
2125 2130 2135

ggt gga ggc gct gga atg tta ggc acg gga gaa ggt ggt ggc ggc 6729
Gly Gly Gly Ala Gly Met Leu Gly Thr Gly Glu Gly Gly Gly Gly
2140 2145 2150

ggt gcc gcc ggt ata att tgt tct ggt tta gtt tgt tcg cgc acg 6774
Gly Ala Ala Gly Ile Ile Cys Ser Gly Leu Val Cys Ser Arg Thr
2155 2160 2165

att gtg ggc acc ggc gca ggc gcc gct ggc tgc aca acg gaa ggt 6819
Ile Val Gly Thr Gly Ala Gly Ala Ala Gly Cys Thr Thr Glu Gly
2170 2175 2180

cgt ctg ctt cga ggc agc gct tgg ggt ggt ggc aat tca ata tta 6864
Arg Leu Leu Arg Gly Ser Ala Trp Gly Gly Gly Asn Ser Ile Leu
2185 2190 2195

taa ttg gaa tac aaa tcg taa aaa tct gct ata agc att gta att 6909

Leu Glu Tyr Lys Ser Lys Ser Ala Ile Ser Ile Val Ile
2200 2205 2210

tcg cta tcg ttt acc gtg ccg ata ttt aac aac cgc tca atg taa 6954
Ser Leu Ser Phe Thr Val Pro Ile Phe Asn Asn Arg Ser Met
2215 2220 2225

gca att gta ttg taa aga gat tgt ctc aag ctc cgc acg ccg ata 6999
Ala Ile Val Leu Arg Asp Cys Leu Lys Leu Arg Thr Pro Ile
2230 2235 2240

aca agc ctt ttc att ttt act aca gca ttg tag tgg cga gac act 7044
Thr Ser Leu Phe Ile Phe Thr Thr Ala Leu Trp Arg Asp Thr
2245 2250

tcg ctg tcg tcg acg tac atg tat gct ttg ttg tca aaa acg tcg 7089
Ser Leu Ser Ser Thr Tyr Met Tyr Ala Leu Leu Ser Lys Thr Ser
2255 2260 2265

ttg gca agc ttt aaa ata ttt aaa aga aca tct ctg ttc agc acc 7134
Leu Ala Ser Phe Lys Ile Phe Lys Arg Thr Ser Leu Phe Ser Thr
2270 2275 2280

act gtg ttg tcg taa atg ttg ttt ttg ata att tgc gct tcc gca 7179
Thr Val Leu Ser Met Leu Phe Leu Ile Ile Cys Ala Ser Ala
2285 2290 2295

gta tcg aca cgt tca aaa aat tga tgc gca tca att ttg ttg ttc 7224
Val Ser Thr Arg Ser Lys Asn Cys Ala Ser Ile Leu Leu Phe
2300 2305 2310

cta tta ttg aat aaa taa gat tgt aca gat tca tat cta cga ttc 7269
Leu Leu Leu Asn Lys Asp Cys Thr Asp Ser Tyr Leu Arg Phe
2315 2320 2325

gtc atg gcc acc aca aat gct acg ctg caa acg ctg gta caa ttt 7314
Val Met Ala Thr Thr Asn Ala Thr Leu Gln Thr Leu Val Gln Phe
2330 2335 2340

tac gaa aac tgc aaa aac gtc aaa act cgg tat aaa ata atc aac 7359
Tyr Glu Asn Cys Lys Asn Val Lys Thr Arg Tyr Lys Ile Ile Asn
2345 2350 2355

ggg cgc ttt ggc aaa ata tct att tta tcg cac aag ccc act agc 7404
Gly Arg Phe Gly Lys Ile Ser Ile Leu Ser His Lys Pro Thr Ser
2360 2365 2370

aaa ttg tat ttg cag aaa aca att tcg gcg cac aat ttt aac gct 7449
Lys Leu Tyr Leu Gln Lys Thr Ile Ser Ala His Asn Phe Asn Ala
2375 2380 2385

gac gaa ata aaa gtt cac cag tta atg agc gac cac cca aat ttt 7494
Asp Glu Ile Lys Val His Gln Leu Met Ser Asp His Pro Asn Phe
2390 2395 2400

ata aaa atc tat ttt aat cac ggt tcc atc aac aac caa gtg atc 7539
Ile Lys Ile Tyr Phe Asn His Gly Ser Ile Asn Asn Gln Val Ile
2405 2410 2415

gtg atg gac tac att gac tgt ccc gat tta ttt gaa aca cta caa 7584

Val Met Asp Tyr Ile Asp Cys Pro Asp Leu Phe Glu Thr Leu Gln
2420 2425 2430

att aaa ggc gag ctt tcg tac caa ctt gtt agc aat att att aga 7629
Ile Lys Gly Glu Leu Ser Tyr Gln Leu Val Ser Asn Ile Ile Arg
2435 2440 2445

cag ctg tgt gaa gcg ctc aac gat ttg cac aag cac aat ttc ata 7674
Gln Leu Cys Glu Ala Leu Asn Asp Leu His Lys His Asn Phe Ile
2450 2455 2460

cac aac gac ata aaa ctc gaa aat gtc tta tat ttc gaa gca ctt 7719
His Asn Asp Ile Lys Leu Glu Asn Val Leu Tyr Phe Glu Ala Leu
2465 2470 2475

gat cgc gtg tat gtt tgc gat tac gga ttg tgc aaa cac gaa aac 7764
Asp Arg Val Tyr Val Cys Asp Tyr Gly Leu Cys Lys His Glu Asn
2480 2485 2490

tca ctt agc gtg cac gac ggc acg ttg gag tat ttt agt ccg gaa 7809
Ser Leu Ser Val His Asp Gly Thr Leu Glu Tyr Phe Ser Pro Glu
2495 2500 2505

aaa att cga cac aca act atg cac gtt tcg ttt gac tgg tac gcg 7854
Lys Ile Arg His Thr Thr Met His Val Ser Phe Asp Trp Tyr Ala
2510 2515 2520

gcg tgt taa cat aca agt tgc taa ccg gcg gtt cgt aat cat ggt 7899
Ala Cys His Thr Ser Cys Pro Ala Val Arg Asn His Gly
2525 2530

cat agc tgt ttc ctg tgt gaa att gtt atc cgc tca caa ttc cac 7944

His Ser Cys Phe Leu Cys Glu Ile Val Ile Arg Ser Gln Phe His

2535 2540 2545

aca aca tac gag ccg gaa gca taa agt gta aag cct ggg gtg cct 7989

Thr Thr Tyr Glu Pro Glu Ala Ser Val Lys Pro Gly Val Pro

2550 2555 2560

aat gag tga gct aac tca cat taa ttg cgt tgc gct cac tgc ccg 8034

Asn Glu Ala Asn Ser His Leu Arg Cys Ala His Cys Pro

2565 2570 2575

ctt tcc agt cgg gaa acc tgt cgt gcc agc tgc att aat gaa tcg 8079

Leu Ser Ser Arg Glu Thr Cys Arg Ala Ser Cys Ile Asn Glu Ser

2580 2585 2590

gcc aac gcg cgg gga gag gcg gtt tgc gta ttg ggc gct ctt ccg 8124

Ala Asn Ala Arg Gly Glu Ala Val Cys Val Leu Gly Ala Leu Pro

2595 2600 2605

ctt cct cgc tca ctg act cgc tgc gct cgg tcg ttc ggc tgc ggc 8169

Leu Pro Arg Ser Leu Thr Arg Cys Ala Arg Ser Phe Gly Cys Gly

2610 2615 2620

gag cgg tat cag ctc act caa agg cgg taa tac ggt tat cca cag 8214

Glu Arg Tyr Gln Leu Thr Gln Arg Arg Tyr Gly Tyr Pro Gln

2625 2630 2635

aat cag ggg ata acg cag gaa aga aca tgt gag caa aag gcc agc 8259

Asn Gln Gly Ile Thr Gln Glu Arg Thr Cys Glu Gln Lys Ala Ser
2640 2645 2650

aaa agg cca gga acc gta aaa agg ccg cgt tgc tgg cgt ttt tcc 8304
Lys Arg Pro Gly Thr Val Lys Arg Pro Arg Cys Trp Arg Phe Ser
2655 2660 2665

ata ggc tcc gcc ccc ctg acg agc atc aca aaa atc gac gct caa 8349
Ile Gly Ser Ala Pro Leu Thr Ser Ile Thr Lys Ile Asp Ala Gln
2670 2675 2680

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Val Arg Gly Gly Glu Thr Arg Gln Asp Tyr Lys Asp Thr Arg Arg
2685 2690 2695

ttc ccc ctg gaa gct ccc tcg tgc gct ctc ctg ttc cga ccc tgc 8439
Phe Pro Leu Glu Ala Pro Ser Cys Ala Leu Leu Phe Arg Pro Cys
2700 2705 2710

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Arg Leu Pro Asp Thr Cys Pro Pro Phe Ser Leu Arg Glu Ala Trp
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cgc ttt ctc ata gct cac gct gta ggt atc tca gtt cgg tgt agg 8529
Arg Phe Leu Ile Ala His Ala Val Gly Ile Ser Val Arg Cys Arg
2730 2735 2740

tcg ttc gct cca agc tgg gct gtg tgc acg aac ccc ccg ttc agc 8574
Ser Phe Ala Pro Ser Trp Ala Val Cys Thr Asn Pro Pro Phe Ser
2745 2750 2755

ccg acc gct gcg cct tat ccg gta act atc gtc ttg agt cca acc 8619
Pro Thr Ala Ala Pro Tyr Pro Val Thr Ile Val Leu Ser Pro Thr
2760 2765 2770

cgg taa gac acg act tat cgc cac tgg cag cag cca ctg gta aca 8664
Arg Asp Thr Thr Tyr Arg His Trp Gln Gln Pro Leu Val Thr
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Gly Leu Ala Glu Arg Gly Met Ala Val Leu Gln Ser Ser
2785 2790 2795

agt ggt ggc cta act acg gct aca cta gaa gga cag tat ttg gta 8754
Ser Gly Gly Leu Thr Thr Ala Thr Leu Glu Gly Gln Tyr Leu Val
2800 2805 2810

tct gcg ctc tgc tga agc cag tta cct tcg gaa aaa gag ttg gta 8799
Ser Ala Leu Cys Ser Gln Leu Pro Ser Glu Lys Glu Leu Val
2815 2820 2825

gct ctt gat ccg gca aac aaa cca ccg ctg gta gcg gtg gtt ttt 8844
Ala Leu Asp Pro Ala Asn Lys Pro Pro Leu Val Ala Val Val Phe
2830 2835 2840

ttg ttt gca agc agc aga tta cgc gca gaa aaa aag gat ctc aag 8889
Leu Phe Ala Ser Ser Arg Leu Arg Ala Glu Lys Lys Asp Leu Lys
2845 2850 2855

aag atc ctt tga tct ttt cta ccg ggt ctg acg ctc agt gga acg 8934

Lys Ile Leu Ser Phe Leu Arg Gly Leu Thr Leu Ser Gly Thr
2860 2865 2870

aaa act cac gtt aag gga ttt tgg tca tga gat tat caa aaa gga 8979
Lys Thr His Val Lys Gly Phe Trp Ser Asp Tyr Gln Lys Gly
2875 2880

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Ser Ser Pro Arg Ser Phe Ile Lys Asn Glu Val Leu Asn Gln
2885 2890 2895

tct aaa gta tat atg agt aaa ctt ggt ctg aca gtt acc aat gct 9069
Ser Lys Val Tyr Met Ser Lys Leu Gly Leu Thr Val Thr Asn Ala
2900 2905 2910

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Ser Val Arg His Leu Ser Gln Arg Ser Val Tyr Phe Val His
2915 2920 2925

cca tag ttg cct gac tcc ccg tcg tgt aga taa cta cga tac ggg 9159
Pro Leu Pro Asp Ser Pro Ser Cys Arg Leu Arg Tyr Gly
2930 2935 2940

agg gct tac cat ctg gcc cca gtg ctg caa tga tac cgc gag acc 9204
Arg Ala Tyr His Leu Ala Pro Val Leu Gln Tyr Arg Glu Thr
2945 2950

cac gct cac cgg ctc cag att tat cag caa taa acc agc cag ccg 9249
His Ala His Arg Leu Gln Ile Tyr Gln Gln Thr Ser Gln Pro
2955 2960 2965

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Glu Gly Pro Ser Ala Glu Val Val Leu Gln Leu Tyr Pro Pro Pro

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2975

2980

tcc agt cta tta att gtt gcc ggg aag cta gag taa gta gtt cgc 9339

Ser Ser Leu Leu Ile Val Ala Gly Lys Leu Glu Val Val Arg

2985

2990

2995

cag tta ata gtt tgc gca acg ttg ttg cca ttg cta cag gca tcg 9384

Gln Leu Ile Val Cys Ala Thr Leu Leu Pro Leu Leu Gln Ala Ser

3000

3005

3010

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Trp Cys His Ala Arg Arg Leu Val Trp Leu His Ser Ala Pro Val

3015

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3025

ccc aac gat caa ggc gag tta cat gat ccc cca tgt tgt gca aaa 9474

Pro Asn Asp Gln Gly Glu Leu His Asp Pro Pro Cys Cys Ala Lys

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3035

3040

aag cgg tta gct cct tcg gtc ctc cga tcg ttg tca gaa gta agt 9519

Lys Arg Leu Ala Pro Ser Val Leu Arg Ser Leu Ser Glu Val Ser

3045

3050

3055

tgg ccg cag tgt tat cac tca tgg tta tgg cag cac tgc ata att 9564

Trp Pro Gln Cys Tyr His Ser Trp Leu Trp Gln His Cys Ile Ile

3060

3065

3070

ctc tta ctg tca tgc cat ccg taa gat gct ttt ctg tga ctg gtg 9609

Leu Leu Leu Ser Cys His Pro Asp Ala Phe Leu Leu Val
3075 3080 3085

agt act caa cca agt cat tct gag aat agt gta tgc ggc gac cga 9654
Ser Thr Gln Pro Ser His Ser Glu Asn Ser Val Cys Gly Asp Arg
3090 3095 3100

gtt gct ctt gcc cgg cgt caa tac ggg ata ata ccg cgc cac ata 9699
Val Ala Leu Ala Arg Arg Gln Tyr Gly Ile Ile Pro Arg His Ile
3105 3110 3115

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Ala Glu Leu Lys Cys Ser Ser Leu Glu Asn Val Leu Arg Gly
3120 3125

gaa aac tct caa gga tct tac cgc tgt tga gat cca gtt cga tgt 9789
Glu Asn Ser Gln Gly Ser Tyr Arg Cys Asp Pro Val Arg Cys
3130 3135 3140

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Asn Pro Leu Val His Pro Thr Asp Leu Gln His Leu Leu Leu Ser
3145 3150 3155

cca gcg ttt ctg ggt gag caa aaa cag gaa ggc aaa atg ccg caa 9879
Pro Ala Phe Leu Gly Glu Gln Lys Gln Glu Gly Lys Met Pro Gln
3160 3165 3170

aaa agg gaa taa ggg cga cac gga aat gtt gaa tac tca tac tct 9924
Lys Arg Glu Gly Arg His Gly Asn Val Glu Tyr Ser Tyr Ser
3175 3180 3185

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Ser Phe Phe Asn Ile Ile Glu Ala Phe Ile Arg Val Ile Val Ser

3190

3195

3200

tga gcg gat aca tat ttg aat gta ttt aga aaa ata aac aaa tag 10014

Ala Asp Thr Tyr Leu Asn Val Phe Arg Lys Ile Asn Lys

3205

3210

3215

ggg ttc cgc gca cat ttc ccc gaa aag tgc cac ctg acg tct aag 10059

Gly Phe Arg Ala His Phe Pro Glu Lys Cys His Leu Thr Ser Lys

3220

3225

3230

aaa cca tta tta tca tga cat taa cct ata aaa ata ggc gta tca cga 10107

Lys Pro Leu Leu Ser His Pro Ile Lys Ile Gly Val Ser Arg

3235

3240

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Gly Pro Phe Val Ser Arg Val Ser Val Met Thr Val Lys Thr Ser

3245

3250

3255

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Asp Thr Cys Ser Ser Arg Arg Arg Ser Gln Leu Val Cys Lys Arg

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3265

3270

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Met Pro Gly Ala Asp Lys Pro Val Arg Ala Arg Gln Arg Val Leu

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3280

3285

gcg ggt gtc ggg gct ggc tta act atg cgg cat cag agc aga ttg 10287

Ala Gly Val Gly Ala Gly Leu Thr Met Arg His Gln Ser Arg Leu
3290 3295 3300

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Tyr Glu Cys Thr Ile Cys Gly Val Lys Tyr Arg Thr Asp Ala
3305 3310 3315

taa gga gaa aat acc gca tca ggc gcc att cgc cat tca ggc tgc 10377
Gly Glu Asn Thr Ala Ser Gly Ala Ile Arg His Ser Gly Cys
3320 3325 3330

gca act gtt ggg aag ggc gat cgg tgc ggg cct ctt cgc tat tac 10422
Ala Thr Val Gly Lys Gly Asp Arg Cys Gly Pro Leu Arg Tyr Tyr
3335 3340 3345

gcc agc tgg cga aag ggg gat gtg ctg caa ggc gat taa gtt ggg 10467
Ala Ser Trp Arg Lys Gly Asp Val Leu Gln Gly Asp Val Gly
3350 3355 3360

taa cgc cag ggt ttt ccc agt cac gac gtt gta aaa cga cgg cca 10512
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Val

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peptide sequence

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1 5 10 15

Tyr Leu Gln Cys Gly Gln Val Ile Lys Asp Ser Asn Leu Ile Cys Phe

20 25 30

Lys Thr Pro Leu Arg Pro Glu Leu Phe Ala Tyr Val Thr Ser Glu Glu

35 40 45

Asp Val Trp Thr Ala Glu Gln Ile Val Lys Gln Asn Pro Ser Ile Gly

50 55 60

Ala Ile Ile Asp Leu Thr Asn Thr Ser Lys Tyr Tyr Asp Gly Val His

65 70 75 80

Phe Leu Arg Ala Gly Leu Leu Tyr Lys Lys Ile Gln Val Pro Gly Gln

85 90 95

Thr Leu Pro Pro Glu Ser Ile Val Gln Glu Phe Ile Asp Thr Val Lys
100 105 110

Glu Phe Thr Glu Lys Cys Pro Gly Met Leu Val Gly Val His Cys Thr
115 120 125

His Gly Ile Asn Arg Thr Gly Tyr Met Val Cys Arg Tyr Leu Met His
130 135 140

Thr Leu Gly Ile Ala Pro Gln Glu Ala Ile Asp Arg Phe Glu Lys Ala
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Arg Gly His Lys Ile Glu Arg Gln Asn Tyr Val Gln Asp Leu Leu Ile
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1 5 10 15

Cys Cys Ala Ser Ser Ser Glu Pro Lys Leu Cys Phe Ala Cys Ser Val
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Gly Ile Glu Pro Arg Asp Pro Thr Asn Pro Pro Leu Trp Gln Leu Asn
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Arg

<210> 10

<211> 28

<212> PRT

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1 5 10 15

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<210> 11

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10

15

Ala Arg

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<210> 16

<211> 11

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Cys

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1 5 10 15

Leu His Glu His Val

20

<210> 21

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 21

Leu Tyr His Lys Leu Tyr Ile Leu Asn Cys

1 5 10

<210> 22

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 22

Arg Arg Pro Trp Pro Arg Thr Gly Pro Val Gly Arg Ala Leu Ala Arg
1 5 10 15

Thr Ala Gly

<210> 23

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 23

Thr Tyr Leu Leu Gln Ile

1 5

<210> 24

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 24

Ile Leu Gln Phe

1

<210> 25

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 25

Arg Glu Pro Phe

1

<210> 26

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 26

Tyr Thr Cys Val Asp Phe Ala Thr Thr Ile Val Phe

1 5 10

<210> 27

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 27

Arg Lys Leu Asn Leu Leu Trp

1 5

<210> 28

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 28

Ala Ile Ile Lys Tyr Gly Gly Thr Cys Ala Ala Thr Thr Leu Val Val

1 5 10 15

Met Asn Ala Asp Gly Ala Gly Leu Gly Ala Ser Gly

20

25

<210> 29

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 29

Asn Val Leu Arg Val Gln Arg Gly Lys His Arg Lys Ser Gln

1

5

10

<210> 30

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 30

Tyr Ser Phe Asp Leu His Ile Asn Gly Asp Phe Leu Asn Tyr Leu Ile
1 5 10 15

<210> 31

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 31

Ile Val Met Thr Pro Thr Thr Pro Arg Pro Arg

1 5 10

<210> 32

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 32

Leu Ala Ala Pro Arg Ala Val Arg

1 5

<210> 33

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 33

Arg Leu Pro Pro Cys Gly Arg Thr Arg Arg Ala Gly Gly Arg

1 5 10

<210> 34

<211> 54

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 34

Pro Ala Ala Cys Arg Thr Arg Arg Thr Ser Ile Cys Thr Pro Asn Asp

1 5 10 15

Arg Arg Ala Lys Ala Arg Arg Pro Pro Ser Gly Asn Ile Gly Lys Phe
20 25 30

Glu Asn Ile Tyr Ser Trp Val Val Cys Ala Tyr Leu Ser Trp Arg Trp
35 40 45

Ala Cys Thr Ser Glu Arg
50

<210> 35

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 35

Phe Ala Cys Lys Pro Lys Leu Asn His Cys Asp

1 5 10

<210> 36

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 36

Asn Val Val His Pro Arg Phe

1 5

<210> 37

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 37

Ser Cys Arg Arg Leu Asn Arg Ala Ile Glu Ser Ser Asp Gln Ser Val

1 5 10 15

Glu

<210> 38

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 38

Cys Phe Leu Cys Ile Pro Glu Ser Ser Ala Ala Arg Ile Leu Thr Asn
1 5 10 15

<210> 39

<211> 40

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 39

Pro Ser Cys Lys Leu Val Ser Phe Asn Ala Thr Leu Ser Asn Asn Ile
1 5 10 15

Leu Cys Ile Ala Arg Gln Glu Leu Thr Met Arg Pro Leu Ser His Leu
20 25 30

Asn Thr Thr Met Ile Glu Ile Lys

35

40

<210> 40

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 40

Ile Ala Cys Asp Ala Thr Cys Thr Ile Cys Ala Arg Val Pro Ala Arg

1

5

10

15

Ala Leu Ile Val Ile Ser Phe Tyr Glu Ala Met Thr

20

25

<210> 41

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 41

Gln Arg Ser Arg Pro Lys Glu Leu Pro Thr Thr Lys Leu Pro Ser Met

1 5 10 15

Ser Val Thr Leu Lys Leu Leu Ser His Pro Ile Asp Arg

20 25

<210> 42

<211> 222

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 42

Ser Asn Gln Asp Arg Trp Cys Glu Lys Pro Arg Ser Met Ala Asn Ala

1 5 10 15

Ser Tyr Asn Val Trp Ser Pro Leu Ile Arg Ala Ser Cys Leu Asp Lys

20 25 30

Lys Ala Thr Tyr Leu Ile Asp Pro Asp Asp Phe Ile Asp Lys Leu Thr

35 40 45

Leu Thr Pro Tyr Thr Val Phe Tyr Asn Gly Gly Val Leu Val Lys Ile

50

55

60

Ser Gly Leu Arg Leu Tyr Met Leu Leu Thr Ala Pro Pro Thr Ile Asn

65

70

75

80

Glu Ile Lys Asn Ser Asn Phe Lys Lys Arg Ser Lys Arg Asn Ile Cys

85

90

95

Met Lys Glu Cys Val Glu Gly Lys Lys Asn Val Val Asp Met Leu Asn

100

105

110

Asn Lys Ile Asn Met Pro Pro Cys Ile Lys Lys Ile Leu Asn Asp Leu

115

120

125

Lys Glu Asn Asn Val Pro Arg Gly Gly Met Tyr Arg Lys Arg Phe Ile

130

135

140

Leu Asn Cys Tyr Ile Ala Asn Val Val Ser Cys Ala Lys Cys Glu Asn

145

150

155

160

Arg Cys Leu Ile Lys Ala Leu Thr His Phe Tyr Asn His Asp Ser Lys

165

170

175

Cys Val Gly Glu Val Met His Leu Leu Ile Lys Ser Gln Asp Val Tyr

180

185

190

Lys Pro Pro Asn Cys Gln Lys Met Lys Thr Val Asp Lys Leu Cys Pro

195

200

205

Phe Ala Gly Asn Cys Lys Gly Leu Asn Pro Ile Cys Asn Tyr

210

215

220

<210> 43

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 43

Ile Ile Lys Gln Leu

1

5

<210> 44

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 44

Met Leu Asn Leu Phe Phe Ile Asn Asp Thr Asn Gln Thr Gln Gln Glu

1 5 10 15

His Leu

<210> 45

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 45

Leu Lys Thr Arg Ser Tyr Asn Arg

1 5

<210> 46

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 46

Asn His Phe Gln Met Ile His Ser

1 5

<210> 47

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 47

Phe Ala Thr Ile

1

<210> 48

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461

peptide sequence

<400> 48

Phe Tyr Phe His Ile Asn

1 5

<210> 49

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461

peptide sequence

<400> 49

Thr Pro Cys Arg Leu Leu Leu Arg Ile Pro Ser Leu Phe His Phe Ser

1 5 10 15

Pro His Lys Asn

20

<210> 50

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 50

His Ser Tyr Tyr Arg Ile His Ile Cys Ile Tyr Arg Ile Glu

1 5 10

<210> 51

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 51

Ile Phe Cys Cys His Lys Tyr Ile Cys Leu Phe

1 5 10

<210> 52

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 52

Tyr Arg Cys Ala

1

<210> 53

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 53

Phe Phe Cys Asn Leu Gln Gln Cys Tyr Phe Leu Val Val Leu Arg Ser

1

5

10

15

Val Leu Leu

<210> 54

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 54

Leu Leu Asn Leu Tyr Asn Gln

1 5

<210> 55

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 55

Ile Trp Asp Arg Arg Phe Cys Thr Ile Cys Cys Arg His Ser Thr Gln

1 5 10 15

Leu Leu Leu Val Gln Leu His His Phe Leu Ala Ala Pro Asp

20

25

30

<210> 56

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 56

His Asn Phe Pro Lys Cys Cys Thr Asn Arg

1

5

10

<210> 57

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 57

Thr Lys Thr Val His Leu Pro Phe Leu Tyr Tyr Cys Leu Arg Ala Val

1

5

10

15

Val Cys Cys

<210> 58

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 58

Asp Ala Gln Thr Asn Ile Thr Asn Trp Lys Cys Leu Ser Ile Tyr Ser

1 5 10 15

Cys

<210> 59

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 59

Tyr His Gly Asp Asn

1 5

<210> 60

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 60

Asn Asp Asn His Leu Ala Asn Lys

1 5

<210> 61

<211> 333

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 61

Val Phe Tyr Cys Phe Arg Asn Ser Phe Val Ile Lys Lys Pro Ile Asn

1 5 10 15

Ile Pro Asp Tyr Ser Tyr Arg Pro Thr Ile Gly Arg Gly Ser Met Leu

20 25 30

Leu Val Asn Gln Ser His Gln Gly Phe Asn Lys Glu His Thr Ser Lys

35 40 45

Met Val Ser Ala Ile Val Leu Tyr Val Leu Leu Ala Ala Ala Ala His

50 55 60

Ser Ala Phe Ala Ala Asp Leu Gly Ser His His His His His His Ile

65 70 75 80

Glu Gly Arg Glu Phe Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu

85 90 95

Val Ala Pro Ser Gln Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe

100 105 110

Ser Leu Thr Ser Tyr Gly Val Ser Trp Val Arg Gln Pro Pro Gly Lys
115 120 125

Gly Leu Glu Trp Leu Gly Val Ile Trp Gly Asp Gly Ser Thr Asn Tyr
130 135 140

His Ser Ala Leu Ile Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys
145 150 155 160

Ser Gln Val Phe Ser Lys Leu Asn Ser Leu Gln Thr Asp Asp Thr Ala
165 170 175

Thr Tyr Tyr Cys Ala Lys Arg Gly Gly Tyr Gly Asn Tyr Tyr Ala Met
180 185 190

Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Gly Gly Gly
195 200 205

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Met
210 215 220

Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly Asp Arg Val Ser
225 230 235 240

Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Thr Ala Val Ala Trp Tyr
245 250 255

Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser
260 265 270

Thr Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly
275 280 285

Thr Asp Tyr Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala
290 295 300

Leu Tyr Tyr Cys Gln Gln His Tyr Ser Thr Pro Pro Thr Phe Gly Gly
305 310 315 320

Gly Thr Lys Leu Gly Thr Lys Arg Ala Pro Gly Gly Cys
325 330

<210> 62

<211> 190

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 62

Arg Ser Asp Pro Phe Leu Gly Pro Gly Lys Asn Gln Lys Leu Thr Leu

1 5 10 15

Phe Lys Glu Ile Arg Asn Val Lys Pro Asp Thr Met Lys Leu Val Val

20 25 30

Gly Trp Lys Gly Lys Glu Phe Tyr Arg Glu Thr Trp Thr Arg Phe Met

35 40 45

Glu Asp Ser Phe Pro Ile Val Asn Asp Gln Glu Val Met Asp Val Phe

50 55 60

Leu Val Val Asn Met Arg Pro Thr Arg Pro Asn Arg Cys Tyr Lys Phe

65 70 75 80

Leu Ala Gln His Ala Leu Arg Cys Asp Pro Asp Tyr Val Pro His Asp

85 90 95

Val Ile Arg Ile Val Glu Pro Ser Trp Val Gly Ser Asn Asn Glu Tyr

100

105

110

Arg Ile Ser Leu Ala Lys Lys Gly Gly Gly Cys Pro Ile Met Asn Leu

115

120

125

His Ser Glu Tyr Thr Asn Ser Phe Glu Gln Phe Ile Asp Arg Val Ile

130

135

140

Trp Glu Asn Phe Tyr Lys Pro Ile Val Tyr Ile Gly Thr Asp Ser Ala

145

150

155

160

Glu Glu Glu Glu Ile Leu Leu Glu Val Ser Leu Val Phe Lys Val Lys

165

170

175

Glu Phe Ala Pro Asp Ala Pro Leu Phe Thr Gly Pro Ala Tyr

180

185

190

<210> 63

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 63

Asn Thr Ile His Cys Tyr

1 5

<210> 64

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 64

Ala Leu Asp Ser Val Arg Cys

1 5

<210> 65

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 65

Phe Thr Asp Asn Cys Cys Thr Tyr Phe Asn Asn Ser Leu Asn Leu

1 5 10 15

<210> 66

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 66

Ser Leu Gly Trp Tyr Val Arg Ala Lys Ile Lys

1 5 10

<210> 67

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 67

Phe Ser Ala Ser Leu Tyr Leu Asn Leu Asn Ile Lys Ser Ser Ile Asp

1 5 10 15

Leu

<210> 68

<211> 73

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 68

Asn Arg Phe Arg Leu Val Ser Asn Lys Gly Cys Phe Ser Glu Pro Met

1 5 10 15

Ala Gly Leu Ser Asn Gly Phe Ser Leu Asn Ala Thr Lys Leu Ala Lys

20 25 30

Ser Cys Ser Ser Asn Leu Ala Leu Ser Ile Phe Val Cys Val Leu Phe

35 40 45

Cys Asn Lys Gly Ser Thr Ser Phe Lys Ile Leu Cys Ala Phe Val Phe

50

55

60

Leu Ser Ser Leu Ser Leu Val Tyr Asn

65

70

<210> 69

<211> 196

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 69

Leu Asp Val Asn Thr Leu Asn Lys Ala Trp Thr Tyr Leu Thr Ser Gly

1

5

10

15

Val Leu Ala Leu Leu Gly Arg Leu Ser Ser Ser Ser Gln Pro Ser Ser

20

25

30

Leu Glu Val Ala Ser Glu Asp Asp Phe Ala Ile Ala Thr Arg Arg Leu

35

40

45

Leu Ile Val Ser Ala Asn Thr Ser Ala Ile Lys Phe Val Val Glu Leu

50

55

60

Phe Gly Ile Ile Ser Asp Cys Gly Arg Phe Trp Ala Gly Phe Asn Leu

65

70

75

80

Thr Val Pro Asp Phe Asn Ser Asp Asn Thr Leu Glu Ser Asp Gly Ala

85

90

95

Gly Gly Gly Asn Ile Ser Asp Gly Lys Ser Thr Asn Gly Gly Gly Gly

100

105

110

Gly Ala Asp Asp Lys Ser Thr Ile Gly Gly Gly Ala Gly Gly Ala Gly

115

120

125

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Asp Ala Asp Gly Gly Leu

130

135

140

Gly Ser Asn Val Ser Leu Gly Asn Thr Val Gly Thr Ser Thr Ile Val

145

150

155

160

Leu Val Ser Gly Ala Val Phe Gly Leu Thr Gly Leu Arg Arg Val Arg

165

170

175

Phe Phe Ser Phe Leu Ile Ala Ser Asn Asn Cys Cys Leu Ser Ser Lys

180

185

190

Gly Ala Ala Gly

195

<210> 70

<211> 79

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 70

Gly Ser Val Gly Ile Gly Gly Ala Gly Gly Asn Ser Asp Ile Asp Gly

1

5

10

15

Gly Gly Gly Gly Gly Gly Ala Gly Met Leu Gly Thr Gly Glu Gly Gly

20

25

30

Gly Gly Gly Ala Ala Gly Ile Ile Cys Ser Gly Leu Val Cys Ser Arg

35

40

45

Thr Ile Val Gly Thr Gly Ala Gly Ala Ala Gly Cys Thr Thr Glu Gly

50

55

60

Arg Leu Leu Arg Gly Ser Ala Trp Gly Gly Gly Asn Ser Ile Leu

65

70

75

<210> 71

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 71

Leu Glu Tyr Lys Ser

1

5

<210> 72

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 72

Lys Ser Ala Ile Ser Ile Val Ile Ser Leu Ser Phe Thr Val Pro Ile

1 5 10 15

Phe Asn Asn Arg Ser Met

20

<210> 73

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 73

Ala Ile Val Leu

1

<210> 74

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 74

Arg Asp Cys Leu Lys Leu Arg Thr Pro Ile Thr Ser Leu Phe Ile Phe

1 5 10 15

Thr Thr Ala Leu

20

<210> 75

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 75

Trp Arg Asp Thr Ser Leu Ser Ser Thr Tyr Met Tyr Ala Leu Leu Ser

1 5 10 15

Lys Thr Ser Leu Ala Ser Phe Lys Ile Phe Lys Arg Thr Ser Leu Phe

20 25 30

Ser Thr Thr Val Leu Ser

35

<210> 76

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 76

Met Leu Phe Leu Ile Ile Cys Ala Ser Ala Val Ser Thr Arg Ser Lys

1

5

10

15

Asn

<210> 77

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 77

Cys Ala Ser Ile Leu Leu Phe Leu Leu Leu Asn Lys

1 5 10

<210> 78

<211> 206

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 78

Asp Cys Thr Asp Ser Tyr Leu Arg Phe Val Met Ala Thr Thr Asn Ala

1 5 10 15

Thr Leu Gln Thr Leu Val Gln Phe Tyr Glu Asn Cys Lys Asn Val Lys

20 25 30

Thr Arg Tyr Lys Ile Ile Asn Gly Arg Phe Gly Lys Ile Ser Ile Leu

35 40 45

Ser His Lys Pro Thr Ser Lys Leu Tyr Leu Gln Lys Thr Ile Ser Ala
50 55 60

His Asn Phe Asn Ala Asp Glu Ile Lys Val His Gln Leu Met Ser Asp
65 70 75 80

His Pro Asn Phe Ile Lys Ile Tyr Phe Asn His Gly Ser Ile Asn Asn
85 90 95

Gln Val Ile Val Met Asp Tyr Ile Asp Cys Pro Asp Leu Phe Glu Thr
100 105 110

Leu Gln Ile Lys Gly Glu Leu Ser Tyr Gln Leu Val Ser Asn Ile Ile
115 120 125

Arg Gln Leu Cys Glu Ala Leu Asn Asp Leu His Lys His Asn Phe Ile
130 135 140

His Asn Asp Ile Lys Leu Glu Asn Val Leu Tyr Phe Glu Ala Leu Asp
145 150 155 160

Arg Val Tyr Val Cys Asp Tyr Gly Leu Cys Lys His Glu Asn Ser Leu
165 170 175

Ser Val His Asp Gly Thr Leu Glu Tyr Phe Ser Pro Glu Lys Ile Arg

180

185

190

His Thr Thr Met His Val Ser Phe Asp Trp Tyr Ala Ala Cys

195

200

205

<210> 79

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 79

His Thr Ser Cys

1

<210> 80

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 80

Pro Ala Val Arg Asn His Gly His Ser Cys Phe Leu Cys Glu Ile Val

1 5 10 15

Ile Arg Ser Gln Phe His Thr Thr Tyr Glu Pro Glu Ala

20 25

<210> 81

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 81

Ser Val Lys Pro Gly Val Pro Asn Glu

1 5

<210> 82

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 82

Ala Asn Ser His

1

<210> 83

<211> 61

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 83

Leu Arg Cys Ala His Cys Pro Leu Ser Ser Arg Glu Thr Cys Arg Ala

1

5

10

15

Ser Cys Ile Asn Glu Ser Ala Asn Ala Arg Gly Glu Ala Val Cys Val

20

25

30

Leu Gly Ala Leu Pro Leu Pro Arg Ser Leu Thr Arg Cys Ala Arg Ser

35

40

45

Phe Gly Cys Gly Glu Arg Tyr Gln Leu Thr Gln Arg Arg

50

55

60

<210> 84

<211> 141

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 84

Tyr Gly Tyr Pro Gln Asn Gln Gly Ile Thr Gln Glu Arg Thr Cys Glu

1

5

10

15

Gln Lys Ala Ser Lys Arg Pro Gly Thr Val Lys Arg Pro Arg Cys Trp

20

25

30

Arg Phe Ser Ile Gly Ser Ala Pro Leu Thr Ser Ile Thr Lys Ile Asp

35

40

45

Ala Gln Val Arg Gly Gly Glu Thr Arg Gln Asp Tyr Lys Asp Thr Arg

50

55

60

Arg Phe Pro Leu Glu Ala Pro Ser Cys Ala Leu Leu Phe Arg Pro Cys

65 70 75 80

Arg Leu Pro Asp Thr Cys Pro Pro Phe Ser Leu Arg Glu Ala Trp Arg

85 90 95

Phe Leu Ile Ala His Ala Val Gly Ile Ser Val Arg Cys Arg Ser Phe

100 105 110

Ala Pro Ser Trp Ala Val Cys Thr Asn Pro Pro Phe Ser Pro Thr Ala

115 120 125

Ala Pro Tyr Pro Val Thr Ile Val Leu Ser Pro Thr Arg

130 135 140

<210> 85

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 85

Asp Thr Thr Tyr Arg His Trp Gln Gln Pro Leu Val Thr Gly Leu Ala

1 5 10 15

Glu Arg Gly Met

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<210> 86

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 86

Ala Val Leu Gln Ser Ser

1 5

<210> 87

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 87

Ser Gly Gly Leu Thr Thr Ala Thr Leu Glu Gly Gln Tyr Leu Val Ser
1 5 10 15

Ala Leu Cys

<210> 88

<211> 43

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
ppeptie sequence

<400> 88

Ser Gln Leu Pro Ser Glu Lys Glu Leu Val Ala Leu Asp Pro Ala Asn
1 5 10 15

Lys Pro Pro Leu Val Ala Val Val Phe Leu Phe Ala Ser Ser Arg Leu
20 25 30

Arg Ala Glu Lys Lys Asp Leu Lys Lys Ile Leu

35

40

<210> 89

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 89

Ser Phe Leu Arg Gly Leu Thr Leu Ser Gly Thr Lys Thr His Val Lys

1

5

10

15

Gly Phe Trp Ser

20

<210> 90

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 90

Asp Tyr Gln Lys Gly Ser Ser Pro Arg Ser Phe

1 5 10

<210> 91

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 91

Ile Lys Asn Glu Val Leu Asn Gln Ser Lys Val Tyr Met Ser Lys Leu

1 5 10 15

Gly Leu Thr Val Thr Asn Ala

20

<210> 92

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 92

Ser Val Arg His Leu Ser Gln Arg Ser Val Tyr Phe Val His Pro

1 5 10 15

<210> 93

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 93

Leu Pro Asp Ser Pro Ser Cys Arg

1 5

<210> 94

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 94

Leu Arg Tyr Gly Arg Ala Tyr His Leu Ala Pro Val Leu Gln

1 5 10

<210> 95

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 95

Tyr Arg Glu Thr His Ala His Arg Leu Gln Ile Tyr Gln Gln

1 5 10

<210> 96

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 96

Thr Ser Gln Pro Glu Gly Pro Ser Ala Glu Val Val Leu Gln Leu Tyr

1 5 10 15

Pro Pro Pro Ser Ser Leu Leu Ile Val Ala Gly Lys Leu Glu

20 25 30

<210> 97

<211> 85

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 97

Val Val Arg Gln Leu Ile Val Cys Ala Thr Leu Leu Pro Leu Leu Gln

1 5 10 15

Ala Ser Trp Cys His Ala Arg Arg Leu Val Trp Leu His Ser Ala Pro

20 25 30

Val Pro Asn Asp Gln Gly Glu Leu His Asp Pro Pro Cys Cys Ala Lys

35 40 45

Lys Arg Leu Ala Pro Ser Val Leu Arg Ser Leu Ser Glu Val Ser Trp

50

55

60

Pro Gln Cys Tyr His Ser Trp Leu Trp Gln His Cys Ile Ile Leu Leu

65

70

75

80

Leu Ser Cys His Pro

85

<210> 98

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 98

Asp Ala Phe Leu

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<210> 99

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 99

Leu Val Ser Thr Gln Pro Ser His Ser Glu Asn Ser Val Cys Gly Asp

1 5 10 15

Arg Val Ala Leu Ala Arg Arg Gln Tyr Gly Ile Ile Pro Arg His Ile

20 25 30

Ala Glu Leu

35

<210> 100

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 100

Lys Cys Ser Ser Leu Glu Asn Val Leu Arg Gly Glu Asn Ser Gln Gly

1 5 10 15

Ser Tyr Arg Cys

20

<210> 101

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 101

Asp Pro Val Arg Cys Asn Pro Leu Val His Pro Thr Asp Leu Gln His

1 5 10 15

Leu Leu Leu Ser Pro Ala Phe Leu Gly Glu Gln Lys Gln Glu Gly Lys

20 25 30

Met Pro Gln Lys Arg Glu

35

<210> 102

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 102

Gly Arg His Gly Asn Val Glu Tyr Ser Tyr Ser Ser Phe Phe Asn Ile

1 5 10 15

Ile Glu Ala Phe Ile Arg Val Ile Val Ser

20 25

<210> 103

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 103

Ala Asp Thr Tyr Leu Asn Val Phe Arg Lys Ile Asn Lys

1 5 10

<210> 104

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 104

Gly Phe Arg Ala His Phe Pro Glu Lys Cys His Leu Thr Ser Lys Lys

1 5 10 15

Pro Leu Leu Ser

20

<210> 105

<211> 69

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 105

Pro Ile Lys Ile Gly Val Ser Arg Gly Pro Phe Val Ser Arg Val Ser

1 5 10 15

Val Met Thr Val Lys Thr Ser Asp Thr Cys Ser Ser Arg Arg Arg Ser

20 25 30

Gln Leu Val Cys Lys Arg Met Pro Gly Ala Asp Lys Pro Val Arg Ala

35 40 45

Arg Gln Arg Val Leu Ala Gly Val Gly Ala Gly Leu Thr Met Arg His

50 55 60

Gln Ser Arg Leu Tyr

65

<210> 106

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 106

Glu Cys Thr Ile Cys Gly Val Lys Tyr Arg Thr Asp Ala

1 5 10

<210> 107

<211> 41

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 107

Gly Glu Asn Thr Ala Ser Gly Ala Ile Arg His Ser Gly Cys Ala Thr

1 5 10 15

Val Gly Lys Gly Asp Arg Cys Gly Pro Leu Arg Tyr Tyr Ala Ser Trp

20 25 30

Arg Lys Gly Asp Val Leu Gln Gly Asp

35 40

<210> 108

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv461
peptide sequence

<400> 108

Arg Gln Gly Phe Pro Ser His Asp Val Val Lys Arg Arg Pro Val
1 5 10 15

<210> 109

<211> 10511

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
nucleotide sequence

<220>

<221> CDS

<222> (1)..(10509)

<400> 109

aag ctt tac tcg taa agc gag ttg aag gat cat att tag ttg cgt tta 48
Lys Leu Tyr Ser Ser Glu Leu Lys Asp His Ile Leu Arg Leu
1 5 10

tga gat aag att gaa agc acg tgt aaa atg ttt ccc gcg cgt tgg cac 96
Asp Lys Ile Glu Ser Thr Cys Lys Met Phe Pro Ala Arg Trp His
15 20 25

aac tat tta caa tgc ggc caa gtt ata aaa gat tct aat ctg ata tgt 144

Asn Tyr Leu Gln Cys Gly Gln Val Ile Lys Asp Ser Asn Leu Ile Cys

30 35 40 45

ttt aaa aca cct ttg cgg ccc gag ttg ttt gcg tac gtg act agc gaa 192

Phe Lys Thr Pro Leu Arg Pro Glu Leu Phe Ala Tyr Val Thr Ser Glu

50 55 60

gaa gat gtg tgg acc gca gaa cag ata gta aaa caa aac cct agt att 240

Glu Asp Val Trp Thr Ala Glu Gln Ile Val Lys Gln Asn Pro Ser Ile

65 70 75

gga gca ata atc gat tta acc aac acg tct aaa tat tat gat ggt gtg 288

Gly Ala Ile Ile Asp Leu Thr Asn Thr Ser Lys Tyr Tyr Asp Gly Val

80 85 90

cat ttt ttg cgg gcg ggc ctg tta tac aaa aaa att caa gta cct ggc 336

His Phe Leu Arg Ala Gly Leu Leu Tyr Lys Lys Ile Gln Val Pro.Gly

95 100 105

cag act ttg ccg cct gaa agc ata gtt caa gaa ttt att gac acg gta 384

Gln Thr Leu Pro Pro Glu Ser Ile Val Gln Glu Phe Ile Asp Thr Val

110 115 120 125

aaa gaa ttt aca gaa aag tgt ccc ggc atg ttg gtg ggc gtg cac tgc 432

Lys Glu Phe Thr Glu Lys Cys Pro Gly Met Leu Val Gly Val His Cys

130 135 140

aca cac ggt att aat cgc acc ggt tac atg gtg tgc aga tat tta atg 480

Thr His Gly Ile Asn Arg Thr Gly Tyr Met Val Cys Arg Tyr Leu Met

145 150 155

cac acc ctg ggt att gcg ccg cag gaa gcc ata gat aga ttc gaa aaa 528

His Thr Leu Gly Ile Ala Pro Gln Glu Ala Ile Asp Arg Phe Glu Lys

160 165 170

gcc aga ggt cac aaa att gaa aga caa aat tac gtt caa gat tta tta 576

Ala Arg Gly His Lys Ile Glu Arg Gln Asn Tyr Val Gln Asp Leu Leu

175 180 185

att taa tta ata tta ttt gca ttc ttt aac aaa tac ttt atc cta ttt 624

Ile Leu Ile Leu Phe Ala Phe Phe Asn Lys Tyr Phe Ile Leu Phe

190 195 200

tca aat tgt tgc gct tct tcc agc gaa cca aaa cta tgc ttc gct tgc 672

Ser Asn Cys Cys Ala Ser Ser Ser Glu Pro Lys Leu Cys Phe Ala Cys

205 210 215 220

tcc gtt tag ctt gta gcc gat cag tgg cgt tgt tcc aat cga cgg tag 720

Ser Val Leu Val Ala Asp Gln Trp Arg Cys Ser Asn Arg Arg

225 230

gat tag gcc gga tat tct cca cca caa tgt tgg caa cgt tga tgt tac 768

Asp Ala Gly Tyr Ser Pro Pro Gln Cys Trp Gln Arg Cys Tyr

235 240 245

gtt tat gct ttt ggt ttt cca cgt acg tct ttt ggc cgg taa tag ccg 816

Val Tyr Ala Phe Gly Phe Pro Arg Thr Ser Phe Gly Arg Pro

250 255 260

taa acg tag tgc cgt cgc gcg tca cgc aca aca ccg gat gtt tgc gct 864

Thr Cys Arg Arg Ala Ser Arg Thr Thr Pro Asp Val Cys Ala

265 270 275

tgt ccg cgg ggt att gaa ccg cgc gat ccg aca aat cca cca ctt tgg 912

Cys Pro Arg Gly Ile Glu Pro Arg Asp Pro Thr Asn Pro Pro Leu Trp

280 285 290

caa cta aat cgg tga cct gcg cgt ctt ttt tct gca tta ttt cgt ctt 960

Gln Leu Asn Arg Pro Ala Arg Leu Phe Ser Ala Leu Phe Arg Leu

295 300 305

tct ttt gca tgg ttt cct gga agc cgg tgt aca tgc ggt tta gat cag 1008

Ser Phe Ala Trp Phe Pro Gly Ser Arg Cys Thr Cys Gly Leu Asp Gln

310 315 320

tca tga cgc gcg tga cct gca aat ctt tgg cct cga tct gct tgt cct 1056

Ser Arg Ala Pro Ala Asn Leu Trp Pro Arg Ser Ala Cys Pro

325 330 335

tga tgg caa cga tgc gtt caa taa act ctt gtt ttt taa caa gtt cct 1104

Trp Gln Arg Cys Val Gln Thr Leu Val Phe Gln Val Pro

340 345 350

cgg ttt ttt gcg cca cca ccg ctt gca gcg cgt ttg tgt gct cgg tga 1152

Arg Phe Phe Ala Pro Pro Pro Leu Ala Ala Arg Leu Cys Ala Arg

355 360 365

atg tcg caa tca gct tag tca cca act gtt tgc tct cct cct ccc gtt 1200

Met Ser Gln Ser Ala Ser Pro Thr Val Cys Ser Pro Pro Pro Val

370 375 380

gtt tga tcg cgg gat cgt act tgc cgg tgc aga gca ctt gag gaa tta 1248

Val Ser Arg Asp Arg Thr Cys Arg Cys Arg Ala Leu Glu Glu Leu

385 390 395

ctt ctt cta aaa gcc att ctt gta att cta tgg cgt aag gca att tgg 1296

Leu Leu Leu Lys Ala Ile Leu Val Ile Leu Trp Arg Lys Ala Ile Trp

400 405 410

act tca taa tca gct gaa tca cgc cgg att tag taa tga gca ctg tat 1344

Thr Ser Ser Ala Glu Ser Arg Arg Ile Ala Leu Tyr

415 420

gcg gct gca aat aca gcg ggt cgc ccc ttt tca cga cgc tgt tag agg 1392

Ala Ala Ala Asn Thr Ala Gly Arg Pro Phe Ser Arg Arg Cys Arg

425 430 435

tag ggc ccc cat ttt gga tgg tct gct caa ata acg att tgt att tat 1440

Gly Pro His Phe Gly Trp Ser Ala Gln Ile Thr Ile Cys Ile Tyr

440 445 450

tgt cta cat gaa cac gta tag ctt tat cac aaa ctg tat att tta aac 1488

Cys Leu His Glu His Val Leu Tyr His Lys Leu Tyr Ile Leu Asn

455 460 465

tgt tag cga cgt cct tgg cca cga acc gga cct gtt ggt cgc gct cta 1536

Cys Arg Arg Pro Trp Pro Arg Thr Gly Pro Val Gly Arg Ala Leu

470 475 480

gca cgt acc gca ggt tga acg tat ctt ctc caa att taa att ctc caa 1584

Ala Arg Thr Ala Gly Thr Tyr Leu Leu Gln Ile Ile Leu Gln

485

490

495

ttt taa cgc gag cca ttt tga tac acg tgt gtc gat ttt gca aca act 1632

Phe Arg Glu Pro Phe Tyr Thr Cys Val Asp Phe Ala Thr Thr

500

505

510

att gtt ttt taa cgc aaa cta aac tta ttg tgg taa gca ata att aaa 1680

Ile Val Phe Arg Lys Leu Asn Leu Leu Trp Ala Ile Ile Lys

515

520

525

tat ggg gga aca tgc gcc gct aca aca ctc gtc gtt atg aac gca gac 1728

Tyr Gly Gly Thr Cys Ala Ala Thr Thr Leu Val Val Met Asn Ala Asp

530

535

540

ggc gcc ggt ctc ggc gca agc ggc taa aac gtg ttg cgc gtt caa cgc 1776

Gly Ala Gly Leu Gly Ala Ser Gly Asn Val Leu Arg Val Gln Arg

545

550

555

ggc aaa cat cgc aaa agc caa tag tac agt ttt gat ttg cat att aac 1824

Gly Lys His Arg Lys Ser Gln Tyr Ser Phe Asp Leu His Ile Asn

560

565

570

ggc gat ttt tta aat tat ctt att taa taa ata gtt atg acg cct aca 1872

Gly Asp Phe Leu Asn Tyr Leu Ile Ile Val Met Thr Pro Thr

575

580

585

act ccc cgc ccg cgt tga ctc gct gca cct cga gca gtt cgt tga cgc 1920

Thr Pro Arg Pro Arg Leu Ala Ala Pro Arg Ala Val Arg Arg

590

595

ctt cct ccg tgt ggc cga aca cgt cga gcg ggt ggt cga tga cca gcg 1968

Leu Pro Pro Cys Gly Arg Thr Arg Arg Ala Gly Gly Arg Pro Ala

600

605

610

gcg tgc cgc acg cga cgc aca agt atc tgt aca ccg aat gat cgt cgg 2016

Ala Cys Arg Thr Arg Arg Thr Ser Ile Cys Thr Pro Asn Asp Arg Arg

615

620

625

630

gcg aag gca cgt cgg cct cca agt ggc aat att ggc aaa ttc gaa aat 2064

Ala Lys Ala Arg Arg Pro Pro Ser Gly Asn Ile Gly Lys Phe Glu Asn

635

640

645

ata tac agt tgg gtt gtt tgc gca tat cta tcg tgg cgt tgg gca tgt 2112

Ile Tyr Ser Trp Val Val Cys Ala Tyr Leu Ser Trp Arg Trp Ala Cys

650

655

660

acg tcc gaa cgt tga ttt gca tgc aag ccg aaa tta aat cat tgc gat 2160

Thr Ser Glu Arg Phe Ala Cys Lys Pro Lys Leu Asn His Cys Asp

665

670

675

tag tgc gat taa aac gtt gta cat cct cgc ttt taa tca tgc cgt cga 2208

Cys Asp Asn Val Val His Pro Arg Phe Ser Cys Arg Arg

680

685

690

tta aat cgc gca atc gag tca agt gat caa agt gtg gaa taa tgt ttt 2256

Leu Asn Arg Ala Ile Glu Ser Ser Asp Gln Ser Val Glu Cys Phe

695

700

705

ctt tgt att ccc gag tca agc gca gcg cgt att tta aca aac tag cca 2304

Leu Cys Ile Pro Glu Ser Ser Ala Ala Arg Ile Leu Thr Asn Pro

710

715

720

tct tgt aag tta gtt tca ttt aat gca act tta tcc aat aat ata tta 2352

Ser Cys Lys Leu Val Ser Phe Asn Ala Thr Leu Ser Asn Asn Ile Leu

725

730

735

tgt atc gca cgt caa gaa tta aca atg cgc ccg ttg tcg cat ctc aac 2400

Cys Ile Ala Arg Gln Glu Leu Thr Met Arg Pro Leu Ser His Leu Asn

740

745

750

acg act atg ata gag atc aaa taa agc gcg aat taa ata gct tgc gac 2448

Thr Thr Met Ile Glu Ile Lys Ser Ala Asn Ile Ala Cys Asp

755

760

765

gca acg tgc acg atc tgt gca cgc gtt ccg gca cga gct ttg att gta 2496

Ala Thr Cys Thr Ile Cys Ala Arg Val Pro Ala Arg Ala Leu Ile Val

770

775

780

ata agt ttt tac gaa gcg atg aca tga ccc ccg tag tga caa cga tca 2544

Ile Ser Phe Tyr Glu Ala Met Thr Pro Pro Gln Arg Ser

785

790

795

cgc cca aaa gaa ctg ccg act aca aaa tta ccg agt atg tcg gtg acg 2592

Arg Pro Lys Glu Leu Pro Thr Thr Lys Leu Pro Ser Met Ser Val Thr

800

805

810

tta aaa cta tta agc cat cca atc gac cgt tag tcg aat cag gac cgc 2640

Leu Lys Leu Leu Ser His Pro Ile Asp Arg Ser Asn Gln Asp Arg

815 820 825

tgg tgc gag aag ccg cga agt atg gcg aat gca tcg tat aac gtg tgg 2688

Trp Cys Glu Lys Pro Arg Ser Met Ala Asn Ala Ser Tyr Asn Val Trp

830 835 840

agt ccg ctc att aga gcg tca tgt tta gac aag aaa gct aca tat tta 2736

Ser Pro Leu Ile Arg Ala Ser Cys Leu Asp Lys Lys Ala Thr Tyr Leu

845 850 855

att gat ccc gat gat ttt att gat aaa ttg acc cta act cca tac acg 2784

Ile Asp Pro Asp Asp Phe Ile Asp Lys Leu Thr Leu Thr Pro Tyr Thr

860 865 870

gta ttc tac aat ggc ggg gtt ttg gtc aaa att tcc gga ctg cga ttg 2832

Val Phe Tyr Asn Gly Gly Val Leu Val Lys Ile Ser Gly Leu Arg Leu

875 880 885 890

tac atg ctg tta acg gct ccg ccc act att aat gaa att aaa aat tcc 2880

Tyr Met Leu Leu Thr Ala Pro Pro Thr Ile Asn Glu Ile Lys Asn Ser

895 900 905

aat ttt aaa aaa cgc agc aag aga aac att tgt atg aaa gaa tgc gta 2928

Asn Phe Lys Lys Arg Ser Lys Arg Asn Ile Cys Met Lys Glu Cys Val

910 915 920

gaa gga aag aaa aat gtc gtc gac atg ctg aac aac aag att aat atg 2976

Glu Gly Lys Lys Asn Val Val Asp Met Leu Asn Asn Lys Ile Asn Met

925 930 935

cct ccg tgt ata aaa aaa ata ttg aac gat ttg aaa gaa aac aat gta 3024

Pro Pro Cys Ile Lys Lys Ile Leu Asn Asp Leu Lys Glu Asn Asn Val

940 945 950

ccg cgc ggc ggt atg tac agg aag agg ttt ata cta aac tgt tac att 3072

Pro Arg Gly Gly Met Tyr Arg Lys Arg Phe Ile Leu Asn Cys Tyr Ile

955 960 965 970

gca aac gtg gtt tcg tgt gcc aag tgt gaa aac cga tgt tta atc aag 3120

Ala Asn Val Val Ser Cys Ala Lys Cys Glu Asn Arg Cys Leu Ile Lys

975 980 985

gct ctg acg cat ttc tac aac cac gac tcc aag tgt gtg ggt gaa gtc 3168

Ala Leu Thr His Phe Tyr Asn His Asp Ser Lys Cys Val Gly Glu Val

990 995 1000

atg cat ctt tta atc aaa tcc caa gat gtg tat aaa cca cca aac 3213

Met His Leu Leu Ile Lys Ser Gln Asp Val Tyr Lys Pro Pro Asn

1005 1010 1015

tgc caa aaa atg aaa act gtc gac aag ctc tgt ccg ttt gct ggc 3258

Cys Gln Lys Met Lys Thr Val Asp Lys Leu Cys Pro Phe Ala Gly

1020 1025 1030

aac tgc aag ggt ctc aat cct att tgt aat tat tga ata ata aaa 3303

Asn Cys Lys Gly Leu Asn Pro Ile Cys Asn Tyr Ile Ile Lys

1035 1040 1045

caa tta taa atg cta aat ttg ttt ttt att aac gat aca aac caa 3348

Gln Leu Met Leu Asn Leu Phe Phe Ile Asn Asp Thr Asn Gln

1050

1055

1060

acg caa caa gaa cat ttg tag tat tat cta taa ttg aaa acg cgt agt 3396

Thr Gln Gln Glu His Leu Tyr Tyr Leu Leu Lys Thr Arg Ser

1065

1070

tat aat cgc tga ggt aat att taa aat cat ttt caa atg att cac 3441

Tyr Asn Arg Gly Asn Ile Asn His Phe Gln Met Ile His

1075

1080

1085

agt taa ttt gcg aca ata taa ttt tat ttt cac ata aac tag acg 3486

Ser Phe Ala Thr Ile Phe Tyr Phe His Ile Asn Thr

1090

1095

cct tgt cgt ctt ctt ctt cgt att cct tct ctt ttt cat ttt tct 3531

Pro Cys Arg Leu Leu Leu Arg Ile Pro Ser Leu Phe His Phe Ser

1100

1105

1110

cct cat aaa aat taa cat agt tat tat cgt atc cat ata tgt atc 3576

Pro His Lys Asn His Ser Tyr Tyr Arg Ile His Ile Cys Ile

1115

1120

1125

tat cgt ata gag taa att ttt tgt tgt cat aaa tat ata tgt ctt 3621

Tyr Arg Ile Glu Ile Phe Cys Cys His Lys Tyr Ile Cys Leu

1130

1135

1140

ttt taa tgg ggt gta tag tac cgc tgc gca tag ttt ttc tgt aat 3666

Phe Trp Gly Val Tyr Arg Cys Ala Phe Phe Cys Asn

1145

1150

tta caa cag tgc tat ttt ctg gta gtt ctt cgg agt gtg ttg ctt 3711
Leu Gln Gln Cys Tyr Phe Leu Val Val Leu Arg Ser Val Leu Leu
1155 1160 1165

taa tta tta aat tta tat aat caa tga att tgg gat cgt cgg ttt 3756
Leu Leu Asn Leu Tyr Asn Gln Ile Trp Asp Arg Arg Phe
1170 1175 1180

tgt aca ata tgt tgc cgg cat agt acg cag ctt ctt cta gtt caa 3801
Cys Thr Ile Cys Cys Arg His Ser Thr Gln Leu Leu Leu Val Gln
1185 1190 1195

tta cac cat ttt tta gca gca ccg gat taa cat aac ttt cca aaa 3846
Leu His His Phe Leu Ala Ala Pro Asp His Asn Phe Pro Lys
1200 1205 1210

tgt tgt acg aac cgt taa aca aaa aca gtt cac ctc cct ttt cta 3891
Cys Cys Thr Asn Arg Thr Lys Thr Val His Leu Pro Phe Leu
1215 1220 1225

tac tat tgt ctg cga gca gtt gtt tgt tgt taa aaa taa cag cca ttg 3939
Tyr Tyr Cys Leu Arg Ala Val Val Cys Cys Lys Gln Pro Leu
1230 1235

taa tga gac gca caa act aat atc aca aac tgg aaa tgt cta tca 3984
Asp Ala Gln Thr Asn Ile Thr Asn Trp Lys Cys Leu Ser
1240 1245 1250

ata tat agt tgc tga tat cat gga gat aat taa aat gat aac cat 4029
Ile Tyr Ser Cys Tyr His Gly Asp Asn Asn Asp Asn His

1255

1260

1265

ctc gca aat aaa taa gta ttt tac tgt ttt cgt aac agt ttt gta 4074

Leu Ala Asn Lys Val Phe Tyr Cys Phe Arg Asn Ser Phe Val

1270

1275

ata aaa aaa cct ata aat att ccg gat tat tca tac cgt ccc acc 4119

Ile Lys Lys Pro Ile Asn Ile Pro Asp Tyr Ser Tyr Arg Pro Thr

1280

1285

1290

atc ggg cgc gga tct atg cta cta gta aat cag tca cac caa ggc 4164

Ile Gly Arg Gly Ser Met Leu Leu Val Asn Gln Ser His Gln Gly

1295

1300

1305

ttc aat aag gaa cac aca agc aag atg gta agc gct att gtt tta 4209

Phe Asn Lys Glu His Thr Ser Lys Met Val Ser Ala Ile Val Leu

1310

1315

1320

tat gtg ctt ttg gcg gcg gcg gcg cat tct gcc ttt gcg gcg gat 4254

Tyr Val Leu Leu Ala Ala Ala Ala His Ser Ala Phe Ala Ala Asp

1325

1330

1335

ctt gga tcc cat cat cac cac cac att gaa gga aga gaa ttc 4299

Leu Gly Ser His His His His His His Ile Glu Gly Arg Glu Phe

1340

1345

1350

cag gtc caa ctg cag cag tct ggg gct gaa ctg gca aaa cct ggg 4344

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Ala Lys Pro Gly

1355

1360

1365

gcc tca gtg aag ctg tcc tgc aag gct tct ggc cac acc ttt act 4389

Ala Ser Val Lys Leu Ser Cys Lys Ala Ser Gly His Thr Phe Thr

1370 1375 1380

agc tac tgg atg cac tgg gta aaa cag agg cct gga cag ggt ctg 4434

Ser Tyr Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu

1385 1390 1395

gaa tgg att gga tac att aat ctt agc agt ggt tat att aag tac 4479

Glu Trp Ile Gly Tyr Ile Asn Leu Ser Ser Gly Tyr Ile Lys Tyr

1400 1405 1410

aat cag gag ttc aag gac aag gcc aca ttg act gca gac aaa tcc 4524

Asn Gln Glu Phe Lys Asp Lys Ala Thr Leu Thr Ala Asp Lys Ser

1415 1420 1425

tcc aac aca gcc tac atg cat ctg agc agc ctg aca tat gag gac 4569

Ser Asn Thr Ala Tyr Met His Leu Ser Ser Leu Thr Tyr Glu Asp

1430 1435 1440

tct gca gtc tat tac tgt gca agg gca gct cag gct acg acc ttt 4614

Ser Ala Val Tyr Tyr Cys Ala Arg Ala Ala Gln Ala Thr Thr Phe

1445 1450 1455

gac tac tgg ggc caa ggc acc act ctc aca gtc tcc tca ggt gga 4659

Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Gly Gly

1460 1465 1470

ggc ggt tca ggc gga ggt ggc tct ggc ggt ggc gga tcg gac att 4704

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile

1475

1480

1485

gtg atg atc cag tct cac aaa ttc atg tcc aca tca gta gga gac 4749

Val Met Ile Gln Ser His Lys Phe Met Ser Thr Ser Val Gly Asp

1490

1495

1500

agg gtc agc atc acc tgc aag gcc agt cag gat gtg agt act gct 4794

Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Thr Ala

1505

1510

1515

gta ggc tgg tat caa caa aaa cca ggg caa tct cct aaa cta ctg 4839

Val Gly Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu

1520

1525

1530

att tac tgg gca tcc acc cgg cac act gga gtc cct gat cgc ttc 4884

Ile Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp Arg Phe

1535

1540

1545

aca ggc agt gga tct ggg aca gat tat act ctc acc atc agc agt 4929

Thr Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser

1550

1555

1560

gtg cag gct gaa gac ctg gca ctt tat tac tgt cag caa cat tat 4974

Val Gln Ala Glu Asp Leu Ala Leu Tyr Tyr Cys Gln Gln His Tyr

1565

1570

1575

agc act cct ccg acg ttc ggt gga ggc acc aag ctg gga atc aaa 5019

Ser Thr Pro Pro Thr Phe Gly Gly Gly Thr Lys Leu Gly Ile Lys

1580

1585

1590

cgg gct ccc ggg gga tgt taa aga tct gat cct ttc ctg gga ccc 5064

Arg Ala Pro Gly Gly Cys Arg Ser Asp Pro Phe Leu Gly Pro

1595 1600 1605

ggc aag aac caa aaa ctc act ctc ttc aag gaa atc cgt aat gtt 5109

Gly Lys Asn Gln Lys Leu Thr Leu Phe Lys Glu Ile Arg Asn Val

1610 1615 1620

aaa ccc gac acg atg aag ctt gtc gtt gga tgg aaa gga aaa gag 5154

Lys Pro Asp Thr Met Lys Leu Val Val Gly Trp Lys Gly Lys Glu

1625 1630 1635

ttc tac agg gaa act tgg acc cgc ttc atg gaa gac agc ttc ccc 5199

Phe Tyr Arg Glu Thr Trp Thr Arg Phe Met Glu Asp Ser Phe Pro

1640 1645 1650

att gtt aac gac caa gaa gtg atg gat gtt ttc ctt gtt gtc aac 5244

Ile Val Asn Asp Gln Glu Val Met Asp Val Phe Leu Val Val Asn

1655 1660 1665

atg cgt ccc act aga ccc aac cgt tgt tac aaa ttc ctg gcc caa 5289

Met Arg Pro Thr Arg Pro Asn Arg Cys Tyr Lys Phe Leu Ala Gln

1670 1675 1680

cac gct ctg cgt tgc gac ccc gac tat gta cct cat gac gtg att 5334

His Ala Leu Arg Cys Asp Pro Asp Tyr Val Pro His Asp Val Ile

1685 1690 1695

agg atc gtc gag cct tca tgg gtg ggc agc aac aac gag tac cgc 5379

Arg Ile Val Glu Pro Ser Trp Val Gly Ser Asn Asn Glu Tyr Arg

1700 1705 1710

atc agc ctg gct aag aag ggc ggc ggc tgc cca ata atg aac ctt 5424

Ile Ser Leu Ala Lys Lys Gly Gly Gly Cys Pro Ile Met Asn Leu

1715 1720 1725

cac tct gag tac acc aac tcg ttc gaa cag ttc atc gat cgt gtc 5469

His Ser Glu Tyr Thr Asn Ser Phe Glu Gln Phe Ile Asp Arg Val

1730 1735 1740

atc tgg gag aac ttc tac aag ccc atc gtt tac atc ggt acc gac 5514

Ile Trp Glu Asn Phe Tyr Lys Pro Ile Val Tyr Ile Gly Thr Asp

1745 1750 1755

tct gct gaa gag gag gaa att ctc ctt gaa gtt tcc ctg gtg ttc 5559

Ser Ala Glu Glu Glu Glu Ile Leu Leu Glu Val Ser Leu Val Phe

1760 1765 1770

aaa gta aag gag ttg gca cca gac gca cct ctg ttc act ggt ccg 5604

Lys Val Lys Glu Phe Ala Pro Asp Ala Pro Leu Phe Thr Gly Pro

1775 1780 1785

gcg tat taa aac acg ata cat tgt tat tag tac att tat taa gcg 5649

Ala Tyr Asn Thr Ile His Cys Tyr Tyr Ile Tyr Ala

1790 1795 1800

cta gat tct gtg cgt tgt tga ttg aca gac aat tgt tgt acg tat 5694

Leu Asp Ser Val Arg Cys Phe Thr Asp Asn Cys Cys Thr Tyr

1805 1810

ttt aat aat tca tta aat tta taa tct tta ggg tgg tat gtt aga 5739
Phe Asn Asn Ser Leu Asn Leu Ser Leu Gly Trp Tyr Val Arg
1815 1820 1825

gcg aaa atc aaa tga ttt tca gcg tct tta tat ctg aat tta aat 5784
Ala Lys Ile Lys Phe Ser Ala Ser Leu Tyr Leu Asn Leu Asn
1830 1835 1840

att aaa tcc tca ata gat ttg taa aat agg ttt cga tta gtt tca 5829
Ile Lys Ser Ser Ile Asp Leu Asn Arg Phe Arg Leu Val Ser
1845 1850 1855

aac aag ggt tgt ttt tcc gaa ccg atg gct gga cta tct aat gga 5874
Asn Lys Gly Cys Phe Ser Glu Pro Met Ala Gly Leu Ser Asn Gly
1860 1865 1870

ttt tcg ctc aac gcc aca aaa ctt gcc aaa tct tgt agc agc aat 5919
Phe Ser Leu Asn Ala Thr Lys Leu Ala Lys Ser Cys Ser Ser Asn
1875 1880 1885

cta gct ttg tcg ata ttc gtt tgt gtt ttg ttt tgt aat aaa ggt 5964
Leu Ala Leu Ser Ile Phe Val Cys Val Leu Phe Cys Asn Lys Gly
1890 1895 1900

tcg acg tcg ttc aaa ata tta tgc gct ttt gta ttt ctt tca tca 6009
Ser Thr Ser Phe Lys Ile Leu Cys Ala Phe Val Phe Leu Ser Ser
1905 1910 1915

ctg tcg tta gtg tac aat tga ctc gac gta aac acg tta aat aaa 6054
Leu Ser Leu Val Tyr Asn Leu Asp Val Asn Thr Leu Asn Lys

1920	1925	1930	
gct tgg aca tat tta aca tcg ggc gtg tta gct tta tta ggc cga 6099			
Ala Trp Thr Tyr Leu Thr Ser Gly Val Leu Ala Leu Leu Gly Arg			
1935	1940	1945	
tta tcg tcg tcg tcc caa ccc tcg tcg tta gaa gtt gct tcc gaa 6144			
Leu Ser Ser Ser Ser Gln Pro Ser Ser Leu Glu Val Ala Ser Glu			
1950	1955	1960	
gac gat ttt gcc ata gcc aca cga cgc cta tta att gtg tcg gct 6189			
Asp Asp Phe Ala Ile Ala Thr Arg Arg Leu Leu Ile Val Ser Ala			
1965	1970	1975	
aac acg tcc gcg atc aaa ttt gta gtt gag ctt ttt gga att att 6234			
Asn Thr Ser Ala Ile Lys Phe Val Val Glu Leu Phe Gly Ile Ile			
1980	1985	1990	
tct gat tgc ggg cgt ttt tgg gcg ggt ttc aat cta act gtg ccc 6279			
Ser Asp Cys Gly Arg Phe Trp Ala Gly Phe Asn Leu Thr Val Pro			
1995	2000	2005	
gat ttt aat tca gac aac acg tta gaa agc gat ggt gca ggc ggt 6324			
Asp Phe Asn Ser Asp Asn Thr Leu Glu Ser Asp Gly Ala Gly Gly			
2010	2015	2020	
ggt aac att tca gac ggc aaa tct act aat ggc ggc ggt ggt gga 6369			
Gly Asn Ile Ser Asp Gly Lys Ser Thr Asn Gly Gly Gly Gly Gly			
2025	2030	2035	

gct gat gat aaa tct acc atc ggt gga ggc gca ggc ggg gct ggc 6414
 Ala Asp Asp Lys Ser Thr Ile Gly Gly Gly Ala Gly Gly Ala Gly
 2040 2045 2050

ggc gga ggc gga ggc gga ggt ggt ggc ggt gat gca gac ggc ggt 6459
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Asp Ala Asp Gly Gly
 2055 2060 2065

tta ggc tca aat gtc tct tta ggc aac aca gtc ggc acc tca act 6504
 Leu Gly Ser Asn Val Ser Leu Gly Asn Thr Val Gly Thr Ser Thr
 2070 2075 2080

att gta ctg gtt tcg ggc gcc gtt ttt ggt ttg acc ggt ctg aga 6549
 Ile Val Leu Val Ser Gly Ala Val Phe Gly Leu Thr Gly Leu Arg
 2085 2090 2095

cga gtg cga ttt ttt tcg ttt cta ata gct tcc aac aat tgt tgt 6594
 Arg Val Arg Phe Phe Ser Phe Leu Ile Ala Ser Asn Asn Cys Cys
 2100 2105 2110

ctg tcg tct aaa ggt gca gcg ggt tga ggt tcc gtc ggc att ggt 6639
 Leu Ser Ser Lys Gly Ala Ala Gly Gly Ser Val Gly Ile Gly
 2115 2120

gga gcg ggc ggc aat tca gac atc gat ggt ggt ggt ggt ggt gga 6684
 Gly Ala Gly Gly Asn Ser Asp Ile Asp Gly Gly Gly Gly Gly Gly
 2125 2130 2135

ggc gct gga atg tta ggc acg gga gaa ggt ggt ggc ggc ggt gcc 6729
 Gly Ala Gly Met Leu Gly Thr Gly Glu Gly Gly Gly Gly Gly Ala

2140 2145 2150

gcc ggt ata att tgt tct ggt tta gtt tgt tcg cgc acg att gtg 6774

Ala Gly Ile Ile Cys Ser Gly Leu Val Cys Ser Arg Thr Ile Val

2155 2160 2165

ggc acc ggc gca ggc gcc gct ggc tgc aca acg gaa ggt cgt ctg 6819

Gly Thr Gly Ala Gly Ala Ala Gly Cys Thr Thr Glu Gly Arg Leu

2170 2175 2180

ctt cga ggc agc gct tgg ggt ggt ggc aat tca ata tta taa ttg 6864

Leu Arg Gly Ser Ala Trp Gly Gly Gly Asn Ser Ile Leu Leu

2185 2190 2195

gaa tac aaa tcg taa aaa tct gct ata agc att gta att tcg cta 6909

Glu Tyr Lys Ser Lys Ser Ala Ile Ser Ile Val Ile Ser Leu

2200 2205 2210

tcg ttt acc gtg ccg ata ttt aac aac cgc tca atg taa gca att 6954

Ser Phe Thr Val Pro Ile Phe Asn Asn Arg Ser Met Ala Ile

2215 2220 2225

gta ttg taa aga gat tgt ctc aag ctc cgc acg ccg ata aca agc 6999

Val Leu Arg Asp Cys Leu Lys Leu Arg Thr Pro Ile Thr Ser

2230 2235 2240

ctt ttc att ttt act aca gca ttg tag tgg cga gac act tcg ctg 7044

Leu Phe Ile Phe Thr Thr Ala Leu Trp Arg Asp Thr Ser Leu

2245 2250

tcg tcg acg tac atg tat gct ttg ttg tca aaa acg tcg ttg gca 7089
Ser Ser Thr Tyr Met Tyr Ala Leu Leu Ser Lys Thr Ser Leu Ala
2255 2260 2265

agc ttt aaa ata ttt aaa aga aca tct ctg ttc agc acc act gtg 7134
Ser Phe Lys Ile Phe Lys Arg Thr Ser Leu Phe Ser Thr Thr Val
2270 2275 2280

ttg tcg taa atg ttg ttt ttg ata att tgc gct tcc gca gta tcg 7179
Leu Ser Met Leu Phe Leu Ile Ile Cys Ala Ser Ala Val Ser
2285 2290 2295

aca cgt tca aaa aat tga tgc gca tca att ttg ttg ttc cta tta 7224
Thr Arg Ser Lys Asn Cys Ala Ser Ile Leu Leu Phe Leu Leu
2300 2305 2310

ttg aat aaa taa gat tgt aca gat tca tat cta cga ttc gtc atg 7269 ,
Leu Asn Lys Asp Cys Thr Asp Ser Tyr Leu Arg Phe Val Met
2315 2320 2325

gcc acc aca aat gct acg ctg caa acg ctg gta caa ttt tac gaa 7314
Ala Thr Thr Asn Ala Thr Leu Gln Thr Leu Val Gln Phe Tyr Glu
2330 2335 2340

aac tgc aaa aac gtc aaa act cgg tat aaa ata atc aac ggg cgc 7359
Asn Cys Lys Asn Val Lys Thr Arg Tyr Lys Ile Ile Asn Gly Arg
2345 2350 2355

ttt ggc aaa ata tct att tta tcg cac aag ccc act agc aaa ttg 7404
Phe Gly Lys Ile Ser Ile Leu Ser His Lys Pro Thr Ser Lys Leu

2360 2365 2370

tat ttg cag aaa aca att tcg gcg cac aat ttt aac gct gac gaa 7449

Tyr Leu Gln Lys Thr Ile Ser Ala His Asn Phe Asn Ala Asp Glu

2375 2380 2385

ata aaa gtt cac cag tta atg agc gac cac cca aat ttt ata aaa 7494

Ile Lys Val His Gln Leu Met Ser Asp His Pro Asn Phe Ile Lys

2390 2395 2400

atc tat ttt aat cac ggt tcc atc aac aac caa gtg atc gtg atg 7539

Ile Tyr Phe Asn His Gly Ser Ile Asn Asn Gln Val Ile Val Met

2405 2410 2415

gac tac att gac tgt ccc gat tta ttt gaa aca cta caa att aaa 7584

Asp Tyr Ile Asp Cys Pro Asp Leu Phe Glu Thr Leu Gln Ile Lys

2420 2425 2430

ggc gag ctt tcg tac caa ctt gtt agc aat att att aga cag ctg 7629

Gly Glu Leu Ser Tyr Gln Leu Val Ser Asn Ile Ile Arg Gln Leu

2435 2440 2445

tgt gaa gcg ctc aac gat ttg cac aag cac aat ttc ata cac aac 7674

Cys Glu Ala Leu Asn Asp Leu His Lys His Asn Phe Ile His Asn

2450 2455 2460

gac ata aaa ctc gaa aat gtc tta tat ttc gaa gca ctt gat cgc 7719

Asp Ile Lys Leu Glu Asn Val Leu Tyr Phe Glu Ala Leu Asp Arg

2465 2470 2475

gtg tat gtt tgc gat tac gga ttg tgc aaa cac gaa aac tca ctt 7764

Val Tyr Val Cys Asp Tyr Gly Leu Cys Lys His Glu Asn Ser Leu

2480

2485

2490

agc gtg cac gac ggc acg ttg gag tat ttt agt ccg gaa aaa att 7809

Ser Val His Asp Gly Thr Leu Glu Tyr Phe Ser Pro Glu Lys Ile

2495

2500

2505

cga cac aca act atg cac gtt tcg ttt gac tgg tac gcg gcg tgt 7854

Arg His Thr Thr Met His Val Ser Phe Asp Trp Tyr Ala Ala Cys

2510

2515

2520

taa cat aca agt tgc taa ccg gcg gtt cgt aat cat ggt cat agc 7899

His Thr Ser Cys Pro Ala Val Arg Asn His Gly His Ser

2525

2530

tgt ttc ctg tgt gaa att gtt atc cgc tca caa ttc cac aca aca 7944

Cys Phe Leu Cys Glu Ile Val Ile Arg Ser Gln Phe His Thr Thr

2535

2540

2545

tac gag ccg gaa gca taa agt gta aag cct ggg gtg cct aat gag 7989

Tyr Glu Pro Glu Ala Ser Val Lys Pro Gly Val Pro Asn Glu

2550

2555

2560

tga gct aac tca cat taa ttg cgt tgc gct cac tgc ccg ctt tcc 8034

Ala Asn Ser His Leu Arg Cys Ala His Cys Pro Leu Ser

2565

2570

2575

agt cgg gaa acc tgt cgt gcc agc tgc att aat gaa tcg gcc aac 8079

Ser Arg Glu Thr Cys Arg Ala Ser Cys Ile Asn Glu Ser Ala Asn

2580	2585	2590	
gcg cgg gga gag	gcg gtt tgc gta ttg	ggc gct ctt ccg ctt cct	8124
Ala Arg Gly Glu	Ala Val Cys Val Leu	Gly Ala Leu Pro Leu Pro	
2595	2600	2605	
cgc tca ctg act	cgc tgc gct cgg tgc	ttc ggc tgc ggc gag cgg	8169
Arg Ser Leu Thr	Arg Cys Ala Arg Ser	Phe Gly Cys Gly Glu Arg	
2610	2615	2620	
tat cag ctc act	caa agg cgg taa tac ggt	tat cca cag aat cag	8214
Tyr Gln Leu Thr	Gln Arg Arg	Tyr Gly Tyr Pro Gln Asn Gln	
2625	2630	2635	
ggg ata acg cag gaa	aga aca tgt gag caa	aag gcc agc aaa agg	8259
Gly Ile Thr Gln Glu	Arg Thr Cys Glu Gln	Lys Ala Ser Lys Arg	
2640	2645	2650	
cca gga acc gta aaa	agg ccg cgt tgc tgg	cgt ttt tcc ata ggc	8304
Pro Gly Thr Val Lys	Arg Pro Arg Cys Trp	Arg Phe Ser Ile Gly	
2655	2660	2665	
tcc gcc ccc ctg acg	agc atc aca aaa atc	gac gct caa gtc aga	8349
Ser Ala Pro Leu Thr	Ser Ile Thr Lys Ile	Asp Ala Gln Val Arg	
2670	2675	2680	
ggt ggc gaa acc cga	cag gac tat aaa gat	acc agg cgt ttc ccc	8394
Gly Gly Glu Thr Arg	Gln Asp Tyr Lys Asp	Thr Arg Arg Phe Pro	
2685	2690	2695	

ctg gaa gct ccc tcg tgc gct ctc ctg ttc cga ccc tgc cgc tta 8439

Leu Glu Ala Pro Ser Cys Ala Leu Leu Phe Arg Pro Cys Arg Leu

2700 2705 2710

ccg gat acc tgt ccg cct ttc tcc ctt cgg gaa gcg tgg cgc ttt 8484

Pro Asp Thr Cys Pro Pro Phe Ser Leu Arg Glu Ala Trp Arg Phe

2715 2720 2725

ctc ata gct cac gct gta ggt atc tca gtt cgg tgt agg tcg ttc 8529

Leu Ile Ala His Ala Val Gly Ile Ser Val Arg Cys Arg Ser Phe

2730 2735 2740

gct cca agc tgg gct gtg tgc acg aac ccc ccg ttc agc ccg acc 8574

Ala Pro Ser Trp Ala Val Cys Thr Asn Pro Pro Phe Ser Pro Thr

2745 2750 2755

gct gcg cct tat ccg gta act atc gtc ttg agt cca acc cgg taa 8619

Ala Ala Pro Tyr Pro Val Thr Ile Val Leu Ser Pro Thr Arg

2760 2765

gac acg act tat cgc cac tgg cag cag cca ctg gta aca gga tta 8664

Asp Thr Thr Tyr Arg His Trp Gln Gln Pro Leu Val Thr Gly Leu

2770 2775 2780

gca gag cga ggt atg tag gcg gtg cta cag agt tct tga agt ggt 8709

Ala Glu Arg Gly Met Ala Val Leu Gln Ser Ser Ser Gly

2785 2790 2795

ggc cta act acg gct aca cta gaa gga cag tat ttg gta tct gcg 8754

Gly Leu Thr Thr Ala Thr Leu Glu Gly Gln Tyr Leu Val Ser Ala

2800	2805	2810	
ctc tgc tga agc cag tta cct tcg gaa aaa gag ttg gta gct ctt 8799			
Leu Cys Ser Gln Leu Pro Ser Glu Lys Glu Leu Val Ala Leu			
2815	2820	2825	
gat ccg gca aac aaa cca ccg ctg gta gcg gtg gtt ttt ttg ttt 8844			
Asp Pro Ala Asn Lys Pro Pro Leu Val Ala Val Val Phe Leu Phe			
2830	2835	2840	
gca agc agc aga tta cgc gca gaa aaa aag gat ctc aag aag atc 8889			
Ala Ser Ser Arg Leu Arg Ala Glu Lys Lys Asp Leu Lys Lys Ile			
2845	2850	2855	
ctt tga tct ttt cta cgg ggt ctg acg ctc agt gga acg aaa act 8934			
Leu Ser Phe Leu Arg Gly Leu Thr Leu Ser Gly Thr Lys Thr			
2860	2865	2870	
cac gtt aag gga ttt tgg tca tga gat tat caa aaa gga tct tca 8979			
His Val Lys Gly Phe Trp Ser Asp Tyr Gln Lys Gly Ser Ser			
2875	2880		
cct aga tcc ttt taa att aaa aat gaa gtt tta aat caa tct aaa 9024			
Pro Arg Ser Phe Ile Lys Asn Glu Val Leu Asn Gln Ser Lys			
2885	2890	2895	
gta tat atg agt aaa ctt ggt ctg aca gtt acc aat gct taa tca 9069			
Val Tyr Met Ser Lys Leu Gly Leu Thr Val Thr Asn Ala Ser			
2900	2905	2910	

gtg agg cac cta tct cag cga tct gtc tat ttc gtt cat cca tag 9114.

Val Arg His Leu Ser Gln Arg Ser Val Tyr Phe Val His Pro

2915 2920 2925

ttg cct gac tcc ccg tcg tgt aga taa cta cga tac ggg agg gct 9159

Leu Pro Asp Ser Pro Ser Cys Arg Leu Arg Tyr Gly Arg Ala

2930 2935 2940

tac cat ctg gcc cca gtg ctg caa tga tac cgc gag acc cac gct 9204

Tyr His Leu Ala Pro Val Leu Gln Tyr Arg Glu Thr His Ala

2945 2950

cac cgg ctc cag att tat cag caa taa acc agc cag ccg gaa ggg 9249

His Arg Leu Gln Ile Tyr Gln Gln Thr Ser Gln Pro Glu Gly

2955 2960 2965

ccg agc gca gaa gtg gtc ctg caa ctt tat ccg cct cca tcc agt 9294

Pro Ser Ala Glu Val Val Leu Gln Leu Tyr Pro Pro Pro Ser Ser

2970 2975 2980

cta tta att gtt gcc ggg aag cta gag taa gta gtt cgc cag tta 9339

Leu Leu Ile Val Ala Gly Lys Leu Glu Val Val Arg Gln Leu

2985 2990 2995

ata gtt tgc gca acg ttg ttg cca ttg cta cag gca tcg tgg tgt 9384

Ile Val Cys Ala Thr Leu Leu Pro Leu Leu Gln Ala Ser Trp Cys

3000 3005 3010

cac gct cgt cgt ttg gta tgg ctt cat tca gct ccg gtt ccc aac 9429

His Ala Arg Arg Leu Val Trp Leu His Ser Ala Pro Val Pro Asn

3015	3020	3025	
gat caa ggc gag tta cat gat ccc cca tgt tgt gca aaa aag cgg 9474			
Asp Gln Gly Glu Leu His Asp Pro Pro Cys Cys Ala Lys Lys Arg			
3030	3035	3040	
tta gct cct tcg gtc ctc cga tcg ttg tca gaa gta agt tgg ccg 9519			
Leu Ala Pro Ser Val Leu Arg Ser Leu Ser Glu Val Ser Trp Pro			
3045	3050	3055	
cag tgt tat cac tca tgg tta tgg cag cac tgc ata att ctc tta 9564			
Gln Cys Tyr His Ser Trp Leu Trp Gln His Cys Ile Ile Leu Leu			
3060	3065	3070	
ctg tca tgc cat ccg taa gat gct ttt ctg tga ctg gtg agt act 9609			
Leu Ser Cys His Pro Asp Ala Phe Leu Leu Val Ser Thr			
3075	3080	3085	
caa cca agt cat tct gag aat agt gta tgc ggc gac cga gtt gct 9654			
Gln Pro Ser His Ser Glu Asn Ser Val Cys Gly Asp Arg Val Ala			
3090	3095	3100	
ctt gcc cgg cgt caa tac ggg ata ata ccg cgc cac ata gca gaa 9699			
Leu Ala Arg Arg Gln Tyr Gly Ile Ile Pro Arg His Ile Ala Glu			
3105	3110	3115	
ctt taa aag tgc tca tca ttg gaa aac gtt ctt cgg ggc gaa aac 9744			
Leu Lys Cys Ser Ser Leu Glu Asn Val Leu Arg Gly Glu Asn			
3120	3125		

tct caa gga tct tac cgc tgt tga gat cca gtt cga tgt aac cca 9789

Ser Gln Gly Ser Tyr Arg Cys Asp Pro Val Arg Cys Asn Pro

3130 3135 3140

ctc gtg cac cca act gat ctt cag cat ctt tta ctt tca cca gcg 9834

Leu Val His Pro Thr Asp Leu Gln His Leu Leu Leu Ser Pro Ala

3145 3150 3155

ttt ctg ggt gag caa aaa cag gaa ggc aaa atg ccg caa aaa agg 9879

Phe Leu Gly Glu Gln Lys Gln Glu Gly Lys Met Pro Gln Lys Arg

3160 3165 3170

gaa taa ggg cga cac gga aat gtt gaa tac tca tac tct tcc ttt 9924

Glu Gly Arg His Gly Asn Val Glu Tyr Ser Tyr Ser Ser Phe

3175 3180 3185

ttc aat att att gaa gca ttt atc agg gtt att gtc tca tga gcg 9969

Phe Asn Ile Ile Glu Ala Phe Ile Arg Val Ile Val Ser Ala

3190 3195 3200

gat aca tat ttg aat gta ttt aga aaa ata aac aaa tag ggg ttc 10014

Asp Thr Tyr Leu Asn Val Phe Arg Lys Ile Asn Lys Gly Phe

3205 3210 3215

cgc gca cat ttc ccc gaa aag tgc cac ctg acg tct aag aaa cca 10059

Arg Ala His Phe Pro Glu Lys Cys His Leu Thr Ser Lys Lys Pro

3220 3225 3230

tta tta tca tga cat taa cct ata aaa ata ggc gta tca cga ggc cct 10107

Leu Leu Ser His Pro Ile Lys Ile Gly Val Ser Arg Gly Pro

3235

3240

ttc gtc tcg cgc gtt tcg gtg atg acg gtg aaa acc tct gac aca 10152

Phe Val Ser Arg Val Ser Val Met Thr Val Lys Thr Ser Asp Thr

3245

3250

3255

tgc agc tcc cgg aga cgg tca cag ctt gtc tgt aag cgg atg ccg 10197

Cys Ser Ser Arg Arg Arg Ser Gln Leu Val Cys Lys Arg Met Pro

3260

3265

3270

gga gca gac aag ccc gtc agg gcg cgt cag cgg gtg ttg gcg ggt 10242

Gly Ala Asp Lys Pro Val Arg Ala Arg Gln Arg Val Leu Ala Gly

3275

3280

3285

gtc ggg gct ggc tta act atg cgg cat cag agc aga ttg tac tga 10287

Val Gly Ala Gly Leu Thr Met Arg His Gln Ser Arg Leu Tyr

3290

3295

3300

gag tgc acc ata tgc ggt gtg aaa tac cgc aca gat gcg taa gga 10332

Glu Cys Thr Ile Cys Gly Val Lys Tyr Arg Thr Asp Ala Gly

3305

3310

3315

gaa aat acc gca tca ggc gcc att cgc cat tca ggc tgc gca act 10377

Glu Asn Thr Ala Ser Gly Ala Ile Arg His Ser Gly Cys Ala Thr

3320

3325

3330

gtt ggg aag ggc gat cgg tgc ggg cct ctt cgc tat tac gcc agc 10422

Val Gly Lys Gly Asp Arg Cys Gly Pro Leu Arg Tyr Tyr Ala Ser

3335

3340

3345

tgg cga aag ggg gat gtg ctg caa ggc gat taa gtt ggg taa cgc 10467

Trp Arg Lys Gly Asp Val Leu Gln Gly Asp Val Gly Arg

3350

3355

3360

cag ggt ttt ccc agt cac gac gtt gta aaa cga cgg cca gtg cc 10511

Gln Gly Phe Pro Ser His Asp Val Val Lys Arg Arg Pro Val

3365

3370

<210> 110

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 110

Lys Leu Tyr Ser

1

<210> 111

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 111

Ser Glu Leu Lys Asp His Ile

1 5

<210> 112

<211> 176

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 112

Asp Lys Ile Glu Ser Thr Cys Lys Met Phe Pro Ala Arg Trp His Asn

1 5 10 15

Tyr Leu Gln Cys Gly Gln Val Ile Lys Asp Ser Asn Leu Ile Cys Phe

20 25 30

Lys Thr Pro Leu Arg Pro Glu Leu Phe Ala Tyr Val Thr Ser Glu Glu

35 40 45

Asp Val Trp Thr Ala Glu Gln Ile Val Lys Gln Asn Pro Ser Ile Gly

50 55 60

Ala Ile Ile Asp Leu Thr Asn Thr Ser Lys Tyr Tyr Asp Gly Val His

65 70 75 80

Phe Leu Arg Ala Gly Leu Leu Tyr Lys Lys Ile Gln Val Pro Gly Gln

85 90 95

Thr Leu Pro Pro Glu Ser Ile Val Gln Glu Phe Ile Asp Thr Val Lys

100 105 110

Glu Phe Thr Glu Lys Cys Pro Gly Met Leu Val Gly Val His Cys Thr

115 120 125

His Gly Ile Asn Arg Thr Gly Tyr Met Val Cys Arg Tyr Leu Met His

130 135 140

Thr Leu Gly Ile Ala Pro Gln Glu Ala Ile Asp Arg Phe Glu Lys Ala

145 150 155 160

Arg Gly His Lys Ile Glu Arg Gln Asn Tyr Val Gln Asp Leu Leu Ile

165 170 175

<210> 113

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 113

Leu Ile Leu Phe Ala Phe Phe Asn Lys Tyr Phe Ile Leu Phe Ser Asn

1 5 10 15

Cys Cys Ala Ser Ser Ser Glu Pro Lys Leu Cys Phe Ala Cys Ser Val

20 25 30

<210> 114

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 114

Leu Val Ala Asp Gln Trp Arg Cys Ser Asn Arg Arg

1 5 10

<210> 115

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 115

Ala Gly Tyr Ser Pro Pro Gln Cys Trp Gln Arg

1 5 10

<210> 116

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 116

Cys Tyr Val Tyr Ala Phe Gly Phe Pro Arg Thr Ser Phe Gly Arg

1 5 10 15

<210> 117

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 117

Cys Arg Arg Ala Ser Arg Thr Thr Pro Asp Val Cys Ala Cys Pro Arg

1 5 10 15

Gly Ile Glu Pro Arg Asp Pro Thr Asn Pro Pro Leu Trp Gln Leu Asn

20 25 30

Arg

<210> 118

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 118

Pro Ala Arg Leu Phe Ser Ala Leu Phe Arg Leu Ser Phe Ala Trp Phe

1 5 10 15

Pro Gly Ser Arg Cys Thr Cys Gly Leu Asp Gln Ser

20 25

<210> 119

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 119

Pro Ala Asn Leu Trp Pro Arg Ser Ala Cys Pro

1 5 10

<210> 120

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 120

Trp Gln Arg Cys Val Gln

1 5

<210> 121

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 121

Thr Leu Val Phe

1

<210> 122

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 122

Gln Val Pro Arg Phe Phe Ala Pro Pro Pro Leu Ala Ala Arg Leu Cys

1 5 10 15

Ala Arg

<210> 123

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 123

Met Ser Gln Ser Ala

1 5

<210> 124

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 124

Ser Pro Thr Val Cys Ser Pro Pro Pro Val Val

1 5 10

<210> 125

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 125

Ser Arg Asp Arg Thr Cys Arg Cys Arg Ala Leu Glu Glu Leu Leu Leu

1 5 10 15

Leu Lys Ala Ile Leu Val Ile Leu Trp Arg Lys Ala Ile Trp Thr Ser

20 25 30

<210> 126

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 126

Ser Ala Glu Ser Arg Arg Ile
1 5

<210> 127

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 127

Ala Leu Tyr Ala Ala Ala Asn Thr Ala Gly Arg Pro Phe Ser Arg Arg
1 5 10 15

Cys

<210> 128

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 128

Gly Pro His Phe Gly Trp Ser Ala Gln Ile Thr Ile Cys Ile Tyr Cys

1 5 10 15

Leu His Glu His Val

20

<210> 129

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 129

Leu Tyr His Lys Leu Tyr Ile Leu Asn Cys

1 5 10

<210> 130

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 130

Arg Arg Pro Trp Pro Arg Thr Gly Pro Val Gly Arg Ala Leu Ala Arg

1 5 10 15

Thr Ala Gly

<210> 131

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 131

Thr Tyr Leu Leu Gln Ile

1 5

<210> 132

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 132

Ile Leu Gln Phe

1

<210> 133

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 133

Arg Glu Pro Phe

1

<210> 134

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 134

Tyr Thr Cys Val Asp Phe Ala Thr Thr Ile Val Phe

1 5 10

<210> 135

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 135

Arg Lys Leu Asn Leu Leu Trp

1 5

<210> 136

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 136

Ala Ile Ile Lys Tyr Gly Gly Thr Cys Ala Ala Thr Thr Leu Val Val

1 5 10 15

Met Asn Ala Asp Gly Ala Gly Leu Gly Ala Ser Gly

20 25

<210> 137

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 137

Asn Val Leu Arg Val Gln Arg Gly Lys His Arg Lys Ser Gln

1 5 10

<210> 138

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 138

Tyr Ser Phe Asp Leu His Ile Asn Gly Asp Phe Leu Asn Tyr Leu Ile

1 5 10 15

<210> 139

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 139

Ile Val Met Thr Pro Thr Thr Pro Arg Pro Arg

1 5 10

<210> 140

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 140

Leu Ala Ala Pro Arg Ala Val Arg

1 5

<210> 141

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 141

Arg Leu Pro Pro Cys Gly Arg Thr Arg Arg Ala Gly Gly Arg

1 5 10

<210> 142

<211> 54

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 142

Pro Ala Ala Cys Arg Thr Arg Arg Thr Ser Ile Cys Thr Pro Asn Asp
1 5 10 15

Arg Arg Ala Lys Ala Arg Arg Pro Pro Ser Gly Asn Ile Gly Lys Phe
 20 25 30

Glu Asn Ile Tyr Ser Trp Val Val Cys Ala Tyr Leu Ser Trp Arg Trp
 35 40 45

Ala Cys Thr Ser Glu Arg
 50

<210> 143

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 143

Phe Ala Cys Lys Pro Lys Leu Asn His Cys Asp

1 5 10

<210> 144

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 144

Asn Val Val His Pro Arg Phe

1 5

<210> 145

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 145

Ser Cys Arg Arg Leu Asn Arg Ala Ile Glu Ser Ser Asp Gln Ser Val

1 5 10 15

Glu

<210> 146

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 146

Cys Phe Leu Cys Ile Pro Glu Ser Ser Ala Ala Arg Ile Leu Thr Asn

1 5 10 15

<210> 147

<211> 40

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 147

Pro Ser Cys Lys Leu Val Ser Phe Asn Ala Thr Leu Ser Asn Asn Ile

1 5 10 15

Leu Cys Ile Ala Arg Gln Glu Leu Thr Met Arg Pro Leu Ser His Leu

20 25 30

Asn Thr Thr Met Ile Glu Ile Lys

35 40

<210> 148

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 148

Ile Ala Cys Asp Ala Thr Cys Thr Ile Cys Ala Arg Val Pro Ala Arg

1 5 10 15

Ala Leu Ile Val Ile Ser Phe Tyr Glu Ala Met Thr

20 25

<210> 149

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 149

Gln Arg Ser Arg Pro Lys Glu Leu Pro Thr Thr Lys Leu Pro Ser Met

1 5 10 15

Ser Val Thr Leu Lys Leu Leu Ser His Pro Ile Asp Arg

20 25

<210> 150

<211> 222

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 150

Ser Asn Gln Asp Arg Trp Cys Glu Lys Pro Arg Ser Met Ala Asn Ala

1 5 10 15

Ser Tyr Asn Val Trp Ser Pro Leu Ile Arg Ala Ser Cys Leu Asp Lys

20 25 30

Lys Ala Thr Tyr Leu Ile Asp Pro Asp Asp Phe Ile Asp Lys Leu Thr

35 40 45

Leu Thr Pro Tyr Thr Val Phe Tyr Asn Gly Gly Val Leu Val Lys Ile

50 55 60

Ser Gly Leu Arg Leu Tyr Met Leu Leu Thr Ala Pro Pro Thr Ile Asn

65 70 75 80

Glu Ile Lys Asn Ser Asn Phe Lys Lys Arg Ser Lys Arg Asn Ile Cys

85 90 95

Met Lys Glu Cys Val Glu Gly Lys Lys Asn Val Val Asp Met Leu Asn

100 105 110

Asn Lys Ile Asn Met Pro Pro Cys Ile Lys Lys Ile Leu Asn Asp Leu

115 120 125

Lys Glu Asn Asn Val Pro Arg Gly Gly Met Tyr Arg Lys Arg Phe Ile

130 135 140

Leu Asn Cys Tyr Ile Ala Asn Val Val Ser Cys Ala Lys Cys Glu Asn

145 150 155 160

Arg Cys Leu Ile Lys Ala Leu Thr His Phe Tyr Asn His Asp Ser Lys

165 170 175

Cys Val Gly Glu Val Met His Leu Leu Ile Lys Ser Gln Asp Val Tyr

180 185 190

Lys Pro Pro Asn Cys Gln Lys Met Lys Thr Val Asp Lys Leu Cys Pro

195 200 205

Phe Ala Gly Asn Cys Lys Gly Leu Asn Pro Ile Cys Asn Tyr

210 215 220

<210> 151

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 151

Ile Ile Lys Gln Leu

1 5

<210> 152

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 152

Met Leu Asn Leu Phe Phe Ile Asn Asp Thr Asn Gln Thr Gln Gln Glu

1 5 10 15

His Leu

<210> 153

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 153

Leu Lys Thr Arg Ser Tyr Asn Arg

1 5

<210> 154

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 154

Asn His Phe Gln Met Ile His Ser

1 5

<210> 155

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 155

Phe Ala Thr Ile

1

<210> 156

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 156

Phe Tyr Phe His Ile Asn

1

5

<210> 157

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 157

Thr Pro Cys Arg Leu Leu Leu Arg Ile Pro Ser Leu Phe His Phe Ser
1 5 10 15

Pro His Lys Asn
20

<210> 158

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 158

His Ser Tyr Tyr Arg Ile His Ile Cys Ile Tyr Arg Ile Glu
1 5 10

<210> 159

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 159

Ile Phe Cys Cys His Lys Tyr Ile Cys Leu Phe
1 5 10

<210> 160

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 160

Tyr Arg Cys Ala
1

<210> 161

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 161

Phe Phe Cys Asn Leu Gln Gln Cys Tyr Phe Leu Val Val Leu Arg Ser

1 5 10 15

Val Leu Leu

<210> 162

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 162

Leu Leu Asn Leu Tyr Asn Gln

1 5

<210> 163

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 163

Ile Trp Asp Arg Arg Phe Cys Thr Ile Cys Cys Arg His Ser Thr Gln
1 5 10 15

Leu Leu Leu Val Gln Leu His His Phe Leu Ala Ala Pro Asp
 20 25 30

<210> 164

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 164

His Asn Phe Pro Lys Cys Cys Thr Asn Arg
1 5 10

<210> 165

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 165

Thr Lys Thr Val His Leu Pro Phe Leu Tyr Tyr Cys Leu Arg Ala Val

1 5 10 15

Val Cys Cys

<210> 166

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 166

Asp Ala Gln Thr Asn Ile Thr Asn Trp Lys Cys Leu Ser Ile Tyr Ser

1 5 10 15

Cys

<210> 167

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 167

Tyr His Gly Asp Asn

1 5

<210> 168

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 168

Asn Asp Asn His Leu Ala Asn Lys

1 5

<210> 169

<211> 331

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 169

Val Phe Tyr Cys Phe Arg Asn Ser Phe Val Ile Lys Lys Pro Ile Asn

1 5 10 15

Ile Pro Asp Tyr Ser Tyr Arg Pro Thr Ile Gly Arg Gly Ser Met Leu

20 25 30

Leu Val Asn Gln Ser His Gln Gly Phe Asn Lys Glu His Thr Ser Lys

35 40 45

Met Val Ser Ala Ile Val Leu Tyr Val Leu Leu Ala Ala Ala Ala His

50 55 60

Ser Ala Phe Ala Ala Asp Leu Gly Ser His His His His His His Ile

65 70 75 80

Glu Gly Arg Glu Phe Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu

85 90 95

Ala Lys Pro Gly Ala Ser Val Lys Leu Ser Cys Lys Ala Ser Gly His

100 105 110

Thr Phe Thr Ser Tyr Trp Met His Trp Val Lys Gln Arg Pro Gly Gln

115 120 125

Gly Leu Glu Trp Ile Gly Tyr Ile Asn Leu Ser Ser Gly Tyr Ile Lys

130 135 140

Tyr Asn Gln Glu Phe Lys Asp Lys Ala Thr Leu Thr Ala Asp Lys Ser

145 150 155 160

Ser Asn Thr Ala Tyr Met His Leu Ser Ser Leu Thr Tyr Glu Asp Ser

165 170 175

Ala Val Tyr Tyr Cys Ala Arg Ala Ala Gln Ala Thr Thr Phe Asp Tyr

180 185 190

Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser
195 200 205

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Met Ile Gln
210 215 220

Ser His Lys Phe Met Ser Thr Ser Val Gly Asp Arg Val Ser Ile Thr
225 230 235 240

Cys Lys Ala Ser Gln Asp Val Ser Thr Ala Val Gly Trp Tyr Gln Gln
245 250 255

Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg
260 265 270

His Thr Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp
275 280 285

Tyr Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Leu Tyr
290 295 300

Tyr Cys Gln Gln His Tyr Ser Thr Pro Pro Thr Phe Gly Gly Gly Thr

305 310 315 320

Lys Leu Gly Ile Lys Arg Ala Pro Gly Gly Cys

325 330

<210> 170

<211> 190

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 170

Arg Ser Asp Pro Phe Leu Gly Pro Gly Lys Asn Gln Lys Leu Thr Leu

1 5 10 15

Phe Lys Glu Ile Arg Asn Val Lys Pro Asp Thr Met Lys Leu Val Val

20 25 30

Gly Trp Lys Gly Lys Glu Phe Tyr Arg Glu Thr Trp Thr Arg Phe Met

35 40 45

Glu Asp Ser Phe Pro Ile Val Asn Asp Gln Glu Val Met Asp Val Phe

50 55 60

Leu Val Val Asn Met Arg Pro Thr Arg Pro Asn Arg Cys Tyr Lys Phe

65 70 75 80

Leu Ala Gln His Ala Leu Arg Cys Asp Pro Asp Tyr Val Pro His Asp

85 90 95

Val Ile Arg Ile Val Glu Pro Ser Trp Val Gly Ser Asn Asn Glu Tyr

100 105 110

Arg Ile Ser Leu Ala Lys Lys Gly Gly Gly Cys Pro Ile Met Asn Leu

115 120 125

His Ser Glu Tyr Thr Asn Ser Phe Glu Gln Phe Ile Asp Arg Val Ile

130 135 140

Trp Glu Asn Phe Tyr Lys Pro Ile Val Tyr Ile Gly Thr Asp Ser Ala

145 150 155 160

Glu Glu Glu Glu Ile Leu Leu Glu Val Ser Leu Val Phe Lys Val Lys

165 170 175

Glu Phe Ala Pro Asp Ala Pro Leu Phe Thr Gly Pro Ala Tyr

180

185

190

<210> 171

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 171

Asn Thr Ile His Cys Tyr

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<210> 172

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 172

Ala Leu Asp Ser Val Arg Cys

1 5

<210> 173

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 173

Phe Thr Asp Asn Cys Cys Thr Tyr Phe Asn Asn Ser Leu Asn Leu

1 5 10 15

<210> 174

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 174

Ser Leu Gly Trp Tyr Val Arg Ala Lys Ile Lys

1 5 10

<210> 175

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 175

Phe Ser Ala Ser Leu Tyr Leu Asn Leu Asn Ile Lys Ser Ser Ile Asp

1 5 10 15

Leu

<210> 176

<211> 73

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 176

Asn Arg Phe Arg Leu Val Ser Asn Lys Gly Cys Phe Ser Glu Pro Met

1 5 10 15

Ala Gly Leu Ser Asn Gly Phe Ser Leu Asn Ala Thr Lys Leu Ala Lys

20 25 30

Ser Cys Ser Ser Asn Leu Ala Leu Ser Ile Phe Val Cys Val Leu Phe

35 40 45

Cys Asn Lys Gly Ser Thr Ser Phe Lys Ile Leu Cys Ala Phe Val Phe

50 55 60

Leu Ser Ser Leu Ser Leu Val Tyr Asn

65 70

<210> 177

<211> 196

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 177

Leu Asp Val Asn Thr Leu Asn Lys Ala Trp Thr Tyr Leu Thr Ser Gly

1 5 10 15

Val Leu Ala Leu Leu Gly Arg Leu Ser Ser Ser Ser Gln Pro Ser Ser

20 25 30

Leu Glu Val Ala Ser Glu Asp Asp Phe Ala Ile Ala Thr Arg Arg Leu

35 40 45

Leu Ile Val Ser Ala Asn Thr Ser Ala Ile Lys Phe Val Val Glu Leu

50 55 60

Phe Gly Ile Ile Ser Asp Cys Gly Arg Phe Trp Ala Gly Phe Asn Leu

65 70 75 80

Thr Val Pro Asp Phe Asn Ser Asp Asn Thr Leu Glu Ser Asp Gly Ala

85 90 95

Gly Gly Gly Asn Ile Ser Asp Gly Lys Ser Thr Asn Gly Gly Gly Gly

100 105 110

Gly Ala Asp Asp Lys Ser Thr Ile Gly Gly Gly Ala Gly Gly Ala Gly

115 120 125

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Asp Ala Asp Gly Gly Leu
130 135 140

Gly Ser Asn Val Ser Leu Gly Asn Thr Val Gly Thr Ser Thr Ile Val
145 150 155 160

Leu Val Ser Gly Ala Val Phe Gly Leu Thr Gly Leu Arg Arg Val Arg
165 170 175

Phe Phe Ser Phe Leu Ile Ala Ser Asn Asn Cys Cys Leu Ser Ser Lys
180 185 190

Gly Ala Ala Gly
195

<210> 178

<211> 79

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 178

Gly Ser Val Gly Ile Gly Gly Ala Gly Gly Asn Ser Asp Ile Asp Gly
1 5 10 15

Gly Gly Gly Gly Gly Gly Ala Gly Met Leu Gly Thr Gly Glu Gly Gly
 20 25 30

Gly Gly Gly Ala Ala Gly Ile Ile Cys Ser Gly Leu Val Cys Ser Arg
 35 40 45

Thr Ile Val Gly Thr Gly Ala Gly Ala Ala Gly Cys Thr Thr Glu Gly
 50 55 60

Arg Leu Leu Arg Gly Ser Ala Trp Gly Gly Gly Asn Ser Ile Leu
65 70 75

<210> 179

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 179

Leu Glu Tyr Lys Ser

1 5

<210> 180

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 180

Lys Ser Ala Ile Ser Ile Val Ile Ser Leu Ser Phe Thr Val Pro Ile

1 5 10 15

Phe Asn Asn Arg Ser Met

20

<210> 181

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 181

Ala Ile Val Leu

1

<210> 182

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 182

Arg Asp Cys Leu Lys Leu Arg Thr Pro Ile Thr Ser Leu Phe Ile Phe

1

5

10

15

Thr Thr Ala Leu

20

<210> 183

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 183

Trp Arg Asp Thr Ser Leu Ser Ser Thr Tyr Met Tyr Ala Leu Leu Ser
1 5 10 15

Lys Thr Ser Leu Ala Ser Phe Lys Ile Phe Lys Arg Thr Ser Leu Phe
 20 25 30

Ser Thr Thr Val Leu Ser
 35

<210> 184

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 184

Met Leu Phe Leu Ile Ile Cys Ala Ser Ala Val Ser Thr Arg Ser Lys
1 5 10 15

Asn

<210> 185

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 185

Cys Ala Ser Ile Leu Leu Phe Leu Leu Leu Asn Lys

1 5 10

<210> 186

<211> 206

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 186

Asp Cys Thr Asp Ser Tyr Leu Arg Phe Val Met Ala Thr Thr Asn Ala

1 5 10 15

Thr Leu Gln Thr Leu Val Gln Phe Tyr Glu Asn Cys Lys Asn Val Lys
20 25 30

Thr Arg Tyr Lys Ile Ile Asn Gly Arg Phe Gly Lys Ile Ser Ile Leu
35 40 45

Ser His Lys Pro Thr Ser Lys Leu Tyr Leu Gln Lys Thr Ile Ser Ala
50 55 60

His Asn Phe Asn Ala Asp Glu Ile Lys Val His Gln Leu Met Ser Asp
65 70 75 80

His Pro Asn Phe Ile Lys Ile Tyr Phe Asn His Gly Ser Ile Asn Asn
85 90 95

Gln Val Ile Val Met Asp Tyr Ile Asp Cys Pro Asp Leu Phe Glu Thr
100 105 110

Leu Gln Ile Lys Gly Glu Leu Ser Tyr Gln Leu Val Ser Asn Ile Ile
115 120 125

Arg Gln Leu Cys Glu Ala Leu Asn Asp Leu His Lys His Asn Phe Ile
130 135 140

His Asn Asp Ile Lys Leu Glu Asn Val Leu Tyr Phe Glu Ala Leu Asp
145 150 155 160

Arg Val Tyr Val Cys Asp Tyr Gly Leu Cys Lys His Glu Asn Ser Leu
165 170 175

Ser Val His Asp Gly Thr Leu Glu Tyr Phe Ser Pro Glu Lys Ile Arg
180 185 190

His Thr Thr Met His Val Ser Phe Asp Trp Tyr Ala Ala Cys
195 200 205

<210> 187

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
ppeptie sequence

<400> 187

His Thr Ser Cys

1

<210> 188

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 188

Pro Ala Val Arg Asn His Gly His Ser Cys Phe Leu Cys Glu Ile Val

1

5

10

15

Ile Arg Ser Gln Phe His Thr Thr Tyr Glu Pro Glu Ala

20

25

<210> 189

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 189

Ser Val Lys Pro Gly Val Pro Asn Glu

1 5

<210> 190

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 190

Ala Asn Ser His

1

<210> 191

<211> 61

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 191

Leu Arg Cys Ala His Cys Pro Leu Ser Ser Arg Glu Thr Cys Arg Ala

1 5 10 15

Ser Cys Ile Asn Glu Ser Ala Asn Ala Arg Gly Glu Ala Val Cys Val

20 25 30

Leu Gly Ala Leu Pro Leu Pro Arg Ser Leu Thr Arg Cys Ala Arg Ser

35 40 45

Phe Gly Cys Gly Glu Arg Tyr Gln Leu Thr Gln Arg Arg

50 55 60

<210> 192

<211> 141

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 192

Tyr Gly Tyr Pro Gln Asn Gln Gly Ile Thr Gln Glu Arg Thr Cys Glu

1 5 10 15

Gln Lys Ala Ser Lys Arg Pro Gly Thr Val Lys Arg Pro Arg Cys Trp
20 25 30

Arg Phe Ser Ile Gly Ser Ala Pro Leu Thr Ser Ile Thr Lys Ile Asp
35 40 45

Ala Gln Val Arg Gly Gly Glu Thr Arg Gln Asp Tyr Lys Asp Thr Arg
50 55 60

Arg Phe Pro Leu Glu Ala Pro Ser Cys Ala Leu Leu Phe Arg Pro Cys
65 70 75 80

Arg Leu Pro Asp Thr Cys Pro Pro Phe Ser Leu Arg Glu Ala Trp Arg
85 90 95

Phe Leu Ile Ala His Ala Val Gly Ile Ser Val Arg Cys Arg Ser Phe
100 105 110

Ala Pro Ser Trp Ala Val Cys Thr Asn Pro Pro Phe Ser Pro Thr Ala
115 120 125

Ala Pro Tyr Pro Val Thr Ile Val Leu Ser Pro Thr Arg

130 135 140

<210> 193

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 193

Asp Thr Thr Tyr Arg His Trp Gln Gln Pro Leu Val Thr Gly Leu Ala

1 5 10 15

Glu Arg Gly Met

20

<210> 194

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 194

Ala Val Leu Gln Ser Ser

1 5

<210> 195

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 195

Ser Gly Gly Leu Thr Thr Ala Thr Leu Glu Gly Gln Tyr Leu Val Ser

1 5 10 15

Ala Leu Cys

<210> 196

<211> 43

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 196

Ser Gln Leu Pro Ser Glu Lys Glu Leu Val Ala Leu Asp Pro Ala Asn

1 5 10 15

Lys Pro Pro Leu Val Ala Val Val Phe Leu Phe Ala Ser Ser Arg Leu

20 25 30

Arg Ala Glu Lys Lys Asp Leu Lys Lys Ile Leu

35 40

<210> 197

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 197

Ser Phe Leu Arg Gly Leu Thr Leu Ser Gly Thr Lys Thr His Val Lys

1 5 10 15

Gly Phe Trp Ser

20

<210> 198

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 198

Asp Tyr Gln Lys Gly Ser Ser Pro Arg Ser Phe

1 5 10

<210> 199

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 199

Ile Lys Asn Glu Val Leu Asn Gln Ser Lys Val Tyr Met Ser Lys Leu

1 5 10 15

Gly Leu Thr Val Thr Asn Ala

20

<210> 200

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 200

Ser Val Arg His Leu Ser Gln Arg Ser Val Tyr Phe Val His Pro

1 5 10 15

<210> 201

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 201

Leu Pro Asp Ser Pro Ser Cys Arg

1 5

<210> 202

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 202

Leu Arg Tyr Gly Arg Ala Tyr His Leu Ala Pro Val Leu Gln

1 5 10

<210> 203

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 203

Tyr Arg Glu Thr His Ala His Arg Leu Gln Ile Tyr Gln Gln

1 5 10

<210> 204

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 204

Thr Ser Gln Pro Glu Gly Pro Ser Ala Glu Val Val Leu Gln Leu Tyr

1 5 10 15

Pro Pro Pro Ser Ser Leu Leu Ile Val Ala Gly Lys Leu Glu

20 25 30

<210> 205

<211> 85

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 205

Val Val Arg Gln Leu Ile Val Cys Ala Thr Leu Leu Pro Leu Leu Gln

1 5 10 15

Ala Ser Trp Cys His Ala Arg Arg Leu Val Trp Leu His Ser Ala Pro
 20 25 30

Val Pro Asn Asp Gln Gly Glu Leu His Asp Pro Pro Cys Cys Ala Lys
 35 40 45

Lys Arg Leu Ala Pro Ser Val Leu Arg Ser Leu Ser Glu Val Ser Trp
 50 55 60

Pro Gln Cys Tyr His Ser Trp Leu Trp Gln His Cys Ile Ile Leu Leu
65 70 75 80

Leu Ser Cys His Pro
 85

<210> 206

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

peptide sequence

<400> 206

Asp Ala Phe Leu

1

<210> 207

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350

ppeptie sequence

<400> 207

Leu Val Ser Thr Gln Pro Ser His Ser Glu Asn Ser Val Cys Gly Asp

1

5

10

15

Arg Val Ala Leu Ala Arg Arg Gln Tyr Gly Ile Ile Pro Arg His Ile

20

25

30

Ala Glu Leu

35

<210> 208

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 208

Lys Cys Ser Ser Leu Glu Asn Val Leu Arg Gly Glu Asn Ser Gln Gly

1 5 10 15

Ser Tyr Arg Cys

20

<210> 209

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 209

Asp Pro Val Arg Cys Asn Pro Leu Val His Pro Thr Asp Leu Gln His

1 5 10 15

Leu Leu Leu Ser Pro Ala Phe Leu Gly Glu Gln Lys Gln Glu Gly Lys
20 25 30

Met Pro Gln Lys Arg Glu
35

<210> 210

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 210

Gly Arg His Gly Asn Val Glu Tyr Ser Tyr Ser Ser Phe Phe Asn Ile
1 5 10 15

Ile Glu Ala Phe Ile Arg Val Ile Val Ser
20 25

<210> 211

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 211

Ala Asp Thr Tyr Leu Asn Val Phe Arg Lys Ile Asn Lys
1 5 10

<210> 212

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 212

Gly Phe Arg Ala His Phe Pro Glu Lys Cys His Leu Thr Ser Lys Lys
1 5 10 15

Pro Leu Leu Ser
20

<210> 213

<211> 69

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 213

Pro Ile Lys Ile Gly Val Ser Arg Gly Pro Phe Val Ser Arg Val Ser

1 5 10 15

Val Met Thr Val Lys Thr Ser Asp Thr Cys Ser Ser Arg Arg Arg Ser

20 25 30

Gln Leu Val Cys Lys Arg Met Pro Gly Ala Asp Lys Pro Val Arg Ala

35 40 45

Arg Gln Arg Val Leu Ala Gly Val Gly Ala Gly Leu Thr Met Arg His

50 55 60

Gln Ser Arg Leu Tyr

65

<210> 214

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 214

Glu Cys Thr Ile Cys Gly Val Lys Tyr Arg Thr Asp Ala

1 5 10

<210> 215

<211> 41

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 215

Gly Glu Asn Thr Ala Ser Gly Ala Ile Arg His Ser Gly Cys Ala Thr

1 5 10 15

Val Gly Lys Gly Asp Arg Cys Gly Pro Leu Arg Tyr Tyr Ala Ser Trp

20 25 30

Arg Lys Gly Asp Val Leu Gln Gly Asp

35

40

<210> 216

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: vector pACgp67-ScFv350
peptide sequence

<400> 216

Arg Gln Gly Phe Pro Ser His Asp Val Val Lys Arg Arg Pro Val

1

5

10

15

<210> 217

<211> 350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic VH
nucleotide sequence

<400> 217

gaggtgaagc ttctccagtc tggaggtggc ctggtgcagc ctggaggatc cctgaaactc 60

tcctgtgcag cctcaggaat cgattttagt agatactgga tgagttgggt tcggcgggct 120
ccagggaaag gactagaatg gattggagaa attaataccag atagcagtac aataaactat 180
gcaccatctc taaaggataa attcatcatc tccagagaca acgccaacaaa tacgctgtac 240
ctgcaaatga gcaaagtgag atctgaggac acagcccttt attactgtgc aagaggactg 300
ggacagaact tgactactgg ggccaaggca ccactctcac agtctctca 350

<210> 218

<211> 336

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic VL
nucleotide sequence

<400> 218

gatattgtga tgacgcaggc tgcatctcc aatccagtca ctcttggaac atcagcttcc 60
atctcctgca ggtctagtaa gagtctccta catagtaatg gcatcactta ttgtattgg 120
tatctgcaga agccaggcca gtctcctcag ctcttgattt atcagatgtc caacctgcc 180
tcaggagtcc cagacagggt cagtagcagt gggtcaggaa ctgatttcac actgagaatc 240
agcagagtgg aggctgagga tgtgggtgtt tattactgtg ctcaaaatct agaacttccg 300
tggaacttcg gtggaggcac caagctggaa atcaaaa 336

<210> 219

<211> 354

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic VH
nucleotide sequence

<400> 219

gaggtgaagc tggaggagtc tggaggaggc ttgtacagc ctgggggttc tctgagtctc 60
tctgtgcag cttctggatt caccttcaact gattactcca tgaactgggt ccgccagcct 120
ccaggggaaga cacttgagtg gttggctttt attagaaaca aagctaattg ttacacagca 180
gagtacagtg catctgtgaa gggtcgggtc tccatctcca gagataattc ccaaagcatc 240
ctctatcttc aaatgaatgc cctgagagct gaggacagtg ccacttatta ctgtgcaagg 300
ggatgggatg ctatggacta ctgggggtcaa ggaacctcag tcaccgtctc ctca 354

<210> 220

<211> 351

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic VH
nucleotide sequence

<400> 220

gaggttctgc tgcagcagtc tgtggcagag cttgtgaggc caggggcctc agtcaagttg 60
tctgcatag ttctgactt caacattaaa cacacctata tgcactgggt gaaacagagg 120
cctgatcagg gcctggagtg gattggaagg attgatcctg cgaatggtaa aactatatat 180
gccccgacgt tccagggcaa ggccactata actgcggaca catcctccaa cacagcctac 240
ctgcatttca gcagcctgac atctgaggac gctgccatct attactgtgc tagagctggg 300
gctggctact ttgactactg gggccaaggc accacttca cagtctctc a 351

<210> 221

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic VL
nucleotide sequence

<400> 221

gacatcttgc tgactcagtc tccagccatc ctgtctgtga gtccaggaga aagagtcagt 60
ttctcctgca gggccagtc gaacattggc acaagtattt actggatatca gcaaagaaca 120
aatggttctc caaggcttct cataaagtat gttctgagt ctatctctgg gatcccttcc 180
aggtttagtg gcagtggatc agggacagag ttactctta gcatcaacag tgtggagtct 240
gaagatatlg cagattatta ctgtcaacaa agtcatagtt ggccgctcac gttcggtgct 300
gggaccaagc tggagctgaa a 321

<210> 222

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Illustrative
mitochondriotoxic motif

<400> 222

Lys Leu Ala Lys Leu Ala Lys Lys Leu Ala Lys Leu Ala Lys

1 5 10

<210> 223

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Illustrative
peptide

<400> 223

Cys Asn Gly Arg Cys

1 5

<210> 224

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Illustrative
peptide

<400> 224

Cys Gly Phe Glu Cys Val Arg Gln Cys Pro Glu Arg Cys

1 5 10

<210> 225

<211> 12

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 225

His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly
1 5 10

<210> 226

<211> 12

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 226

His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly
1 5 10

<210> 227

<211> 26

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 227

His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly Ile Ile Gln Gln
1 5 10 15

Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

20

25

<210> 228

<211> 26

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 228

His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly Ile Ile Gln Gln

1

5

10

15

Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

20

25

<210> 229

<211> 45

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 229

Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu Gln Gln Leu

1

5

10

15

Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly Ile

20

25

30

Ile Gln Gln Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

35

40

45

<210> 230

<211> 45

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 230

Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu Gln Gln Leu

1

5

10

15

Leu Phe Ile His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly Ile

20

25

30

Ile Gln Gln Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

35

40

45

<210> 231

<211> 45

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 231

Asp Thr Trp Thr Gly Val Glu Ala Ala Ile Arg Ile Leu Gln Gln Ala

1

5

10

15

Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly Ile

20

25

30

Ile Gln Gln Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

35

40

45

<210> 232

<211> 31

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 232

Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu Gln Gln Leu

1

5

10

15

Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly

20

25

30

<210> 233

<211> 31

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 233

Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu Gln Gln Leu

1

5

10

15

Leu Phe Ile His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly

20

25

30

<210> 234

<211> 25

<212> PRT

<213> *Candida albicans*

<400> 234

Asp Ser His Ala Arg Lys Arg His His Gly Tyr Lys Arg Lys Phe His
1 5 10 15

Glu Lys His His Ser His Arg Gly Tyr
20 25

<210> 235

<211> 14

<212> PRT

<213> *Vespula lewisii*

<400> 235

Ile Asn Leu Lys Ala Leu Ala Ala Leu Ala Lys Lys Ile Leu
1 5 10

<210> 236

<211> 14

<212> PRT

<213> *Homo sapiens*

<400> 236

Leu Ser Arg Leu Leu Gly Lys Leu Pro Glu Leu Arg Thr Leu

1 5 10

<210> 237

<211> 14

<212> PRT

<213> Homo sapiens

<400> 237

Ala Thr Leu Asp Ala Leu Leu Ala Ala Leu Arg Arg Ile Gln

1 5 10

<210> 238

<211> 17

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: TOX peptide

<400> 238

Arg Asn Ile Ala Arg His Leu Ala Gln Val Gly Asp Ser Met Arg Asp

1 5 10 15

Arg

<210> 239

<211> 16

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: TOX peptide

<400> 239

Lys Lys Leu Ser Glu Cys Leu Lys Arg Ile Gly Asp Glu Leu Asp Ser
1 5 10 15

<210> 240

<211> 16

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: TOX peptide

<400> 240

Gly Gln Val Gly Arg Gln Leu Ala Ile Ile Gly Asp Asp Ile Asn Arg
1 5 10 15

<210> 241

<211> 9

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: TOX peptide

<400> 241

Ala Leu Arg Phe Thr Ser Ala Arg Arg

1 5

<210> 242

<211> 15

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: TOX peptide

<400> 242

Lys Thr His Val Lys Thr Ala Ser Leu Gly Leu Ala Gly Lys Ala

1 5 10 15

<210> 243

<211> 13

<212> PRT

<213> Homo sapiens

<400> 243

Asp Arg His Lys Gln Phe Trp Arg Tyr Phe Ala Gly Asn

1 5 10

<210> 244

<211> 13

<212> PRT

<213> Homo sapiens

<400> 244

Asp Lys Arg Thr Gln Phe Trp Arg Tyr Phe Ala Gly Asn

1 5 10

<210> 245

<211> 13

<212> PRT

<213> Homo sapiens

<400> 245

Asp Lys His Thr Gln Phe Trp Arg Tyr Phe Ala Gly Asn

1 5 10

<210> 246

<211> 13

<212> PRT

<213> Homo sapiens

<400> 246

Asp Arg His Lys Gln Phe Trp Arg Tyr Phe Pro Gly Asn

1 5 10

<210> 247

<211> 13

<212> PRT

<213> Homo sapiens

<400> 247

Asp Lys Arg Thr Gln Phe Trp Arg Tyr Phe Pro Gly Asn

1 5 10

<210> 248

<211> 13

<212> PRT

<213> Homo sapiens

<400> 248

Asp Lys His Thr Gln Phe Trp Arg Tyr Phe Pro Gly Asn

1 5 10

<210> 249

<211> 18

<212> PRT

<213> Homo sapiens

<400> 249

Leu Ala Ser Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr

1 5 10 15

Pro Leu

<210> 250

<211> 31

<212> PRT

<213> Homo sapiens

<400> 250

Asp Arg His Lys Gln Phe Trp Arg Tyr Phe Ala Gly Asn Leu Ala Ser

1 5 10 15

Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25 30

<210> 251

<211> 31

<212> PRT

<213> Homo sapiens

<400> 251

Asp Lys Arg Thr Gln Phe Trp Arg Tyr Phe Ala Gly Asn Leu Ala Ser

1 5 10 15

Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25 30

<210> 252

<211> 31

<212> PRT

<213> Homo sapiens

<400> 252

Asp Lys His Thr Gln Phe Trp Arg Tyr Phe Ala Gly Asn Leu Ala Ser

1 5 10 15

Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25 30

<210> 253

<211> 31

<212> PRT

<213> Homo sapiens

<400> 253

Asp Arg His Lys Gln Phe Trp Arg Tyr Phe Pro Gly Asn Leu Ala Ser

1 5 10 15

Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25 30

<210> 254

<211> 31

<212> PRT

<213> Homo sapiens

<400> 254

Asp Lys Arg Thr Gln Phe Trp Arg Tyr Phe Pro Gly Asn Leu Ala Ser

1 5 10 15

Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25 30

<210> 255

<211> 31

<212> PRT

<213> Homo sapiens

<400> 255

Asp Lys His Thr Gln Phe Trp Arg Tyr Phe Pro Gly Asn Leu Ala Ser

1 5 10 15

Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25 30

<210> 256

<211> 45

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 256

Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu Gln Gln Leu

1 5 10 15

Leu Phe Ile His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly Ile

20 25 30

Ile Gln Gln Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

35 40 45

<210> 257

<211> 14

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: TOX peptide

<400> 257

Pro Ser Leu Arg Val Trp Arg Leu Cys Ala Arg Arg Leu Val

1 5 10

<210> 258

<211> 25

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: TOX peptide

<400> 258

Asn Leu Trp Ala Ala Gln Arg Tyr Gly Arg Glu Leu Arg Arg Met Ser

1 5 10 15

Asp Glu Phe Val Asp Ser Phe Lys Lys

20 25

<210> 259

<211> 25

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: TOX peptide

<400> 259

Gln Asp Ala Ser Thr Lys Lys Leu Ser Glu Cys Leu Lys Arg Ile Gly

1 5 10 15

Asp Glu Leu Asp Ser Asn Met Glu Leu

20 25

<210> 260

<211> 13

<212> PRT

<213> Homo sapiens

<400> 260

Asp Arg His Lys Gln Phe Trp Arg Tyr Phe Ala Gly Asn

1 5 10

<210> 261

<211> 13

<212> PRT

<213> Homo sapiens

<400> 261

Asp Lys Arg Thr Gln Phe Trp Arg Tyr Phe Ala Gly Asn

1 5 10

<210> 262

<211> 13

<212> PRT

<213> Homo sapiens

<400> 262

Asp Lys His Thr Gln Phe Trp Arg Tyr Phe Ala Gly Asn

1 5 10

<210> 263

<211> 18

<212> PRT

<213> Homo sapiens

<400> 263

Leu Ala Ser Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr

1 5 10 15

Pro Leu

<210> 264

<211> 31

<212> PRT

<213> Homo sapiens

<400> 264

Asp Arg His Lys Gln Phe Trp Arg Tyr Phe Ala Gly Asn Leu Ala Ser

1 5 10 15

Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25 30

<210> 265

<211> 31

<212> PRT

<213> Homo sapiens

<400> 265

Asp Lys Arg Thr Gln Phe Trp Arg Tyr Phe Ala Gly Asn Leu Ala Ser

1 5 10 15

Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25 30

<210> 266

<211> 31

<212> PRT

<213> Homo sapiens

<400> 266

Asp Lys His Thr Gln Phe Trp Arg Tyr Phe Ala Gly Asn Leu Ala Ser

1 5 10 15

Gly Gly Ala Ala Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25 30

<210> 267

<211> 16

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Antennapedia TOX
peptide

<400> 267

Arg Gln Ile Lys Ile Thr Phe Gln Asn Arg Arg Met Lys Thr Lys Lys

1 5 10 15

<210> 268

<211> 14

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 268

Ile Ile Gln Gln Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

1 5 10

<210> 269

<211> 12

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 269

Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro

1 5 10

<210> 270

<211> 9

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 270

Arg Lys Lys Arg Arg Gln Arg Arg Arg

1 5

<210> 271

<211> 12

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: pep-1 TOX peptide

<400> 271

Lys Glu Thr Trp Trp Glu Thr Trp Trp Thr Glu Trp

1 5 10

<210> 272

<211> 96

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 272

Met Glu Gln Ala Pro Glu Asp Gln Gly Pro Gln Arg Glu Pro Tyr Asn

1 5 10 15

Glu Trp Thr Leu Glu Leu Leu Glu Glu Leu Lys Ser Glu Ala Val Arg

20 25 30

His Phe Pro Arg Ile Trp Leu His Asn Leu Gly Gln His Ile Tyr Glu

35 40 45

Thr Tyr Gly Asp Thr Trp Ala Gly Val Glu Ala Ile Ile Arg Ile Leu

50 55 60

Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg
65 70 75 80

Ile Gly Val Thr Arg Gln Arg Arg Ala Arg Asn Gly Ala Ser Arg Ser
 85 90 95

<210> 273

<211> 5

<212> PRT

<213> Human immunodeficiency virus type 1

<220>

<221> MOD_RES

<222> (2)

<223> Phe or Ser

<400> 273

His Xaa Arg Ile Gly

1 5

<210> 274

<211> 12

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 274

His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly

1 5 10

<210> 275

<211> 5

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 275

His Phe Arg Ile Gly

1 5

<210> 276

<211> 5

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 276

His Ser Arg Ile Gly

1 5

<210> 277

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker peptide

<400> 277

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser

1 5 10 15

<210> 278

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 278

Cys Asn Gly Arg Cys Gly Gly His Phe Arg Ile Gly Cys Arg His Ser

1 5 10 15

Arg Ile Gly

<210> 279

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

peptide

<400> 279

Cys Asn Gly Arg Cys Gly Gly

1 5

<210> 280

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 280

Cys Asn Gly Arg Cys Gly Gly Asp Lys Arg Thr Gln Phe Trp Tyr Phe

1 5 10 15

Pro Gly Asn

<210> 281

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 281

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly His Phe Arg Ile
1 5 10 15

Gly Cys Arg His Ser Arg Ile Gly
20

<210> 282

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 282

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly
1 5 10

<210> 283

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 283

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly Asp Lys Arg Thr
1 5 10 15

Gln Phe Trp Tyr Phe Pro Gly Asn
20

<210> 284

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 284

His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly
1 5 10

<210> 285

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 285

Asp Lys Arg Thr Gln Phe Trp Tyr Phe Pro Gly Asn

1 5 10

<210> 286

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 6-His tag

<400> 286

His His His His His His

1 5

<210> 287

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 287

gatcccatca tcaccaccac cac

23

<210> 288

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 288

attgaaggaa gagaattccc atg

23

<210> 289

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 289

gctgcagccc gggggatgtt aaa

23

<210> 290

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 290

cttcctcaa tgtggtggtg gtgatgatgg 30

<210> 291

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 291

gggctgcagc catggaatt ct 22

<210> 292

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 292

gatctttaac atcccc

17

<210> 293

<211> 45

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 293

Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu Gln Gln Leu

1 5 10 15

Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly Ile

20 25 30

Ile Gln Gln Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

35 40 45

<210> 294

<211> 44

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 294

Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu Gln Gln Leu

1 5 10 15

Leu Phe His Phe Ala Ile Gly Cys Arg His Ser Ala Ile Gly Ile Ile

20 25 30

Gln Gln Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

35 40

<210> 295

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 295

Cys Asn Gly Arg Cys Gly Gly His Phe Arg Ile Gly Cys Arg His Ser
1 5 10 15

Arg Ile Gly

<210> 296

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 296

Cys Asn Gly Arg Cys Gly Gly His Phe Ala Ile Gly Cys Arg His Ser
1 5 10 15

Ala Ile Gly

<210> 297

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 297

Cys Asn Gly Arg Cys Gly Gly Cys Asn Gly Arg Cys

1

5

10

<210> 298

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 298

Gly Gly His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly

1 5 10

<210> 299

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 299

Cys Asn Gly Arg Cys Gly Gly

1 5

<210> 300

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 300

Lys Glu Thr Trp Trp Glu Thr Trp Trp Thr Glu Trp Gly Gly His Phe

1 5 10 15

Arg Ile Gly Cys Arg His Ser Arg Ile Gly

20 25

<210> 301

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 301

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly His Phe Arg Ile

1 5 10 15

Gly Cys Arg His Ser Arg Ile Gly

20

<210> 302

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 302

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly His Phe Ala Ile
1 5 10 15

Gly Cys Arg His Ser Ala Ile Gly
20

<210> 303

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 303

Cys Asn Gly Arg Cys Gly Gly Asp Lys Arg Thr Gln Phe Trp Arg Tyr

1 5 10 15

Phe Pro Gly Asn

20

<210> 304

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 304

Cys Asn Gly Arg Cys Gly Gly Asp Lys Arg Thr Gln Phe Trp Arg Tyr

1 5 10 15

Phe Ala Gly Asn

20

<210> 305

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 305

Cys Asn Gly Arg Cys Gly Gly Asp Arg His Lys Gln Phe Trp Arg Tyr
1 5 10 15

Phe Pro Gly Asn
20

<210> 306

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 306

Cys Asn Gly Arg Cys Gly Gly Asp Lys His Thr Gln Phe Trp Arg Tyr

1 5 10 15

Phe Pro Gly Asn

20

<210> 307

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 307

Gly Gly Asp Lys Arg Thr Gln Phe Trp Arg Tyr Phe Pro Gly Asn

1 5 10 15

<210> 308

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 308

Gly Gly Asp Arg His Lys Gln Phe Trp Arg Tyr Phe Pro Gly Asn
1 5 10 15

<210> 309

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 309

Gly Gly Asp Lys His Thr Gln Phe Trp Arg Tyr Phe Pro Gly Asn

1 5 10 15

<210> 310

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 310

Cys Asn Gly Arg Cys Gly Gly

1 5

<210> 311

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 311

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly Asp Lys Arg Thr
1 5 10 15

Gln Phe Trp Arg Tyr Phe Pro Gly Asn
20 25

<210> 312

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 312

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly Asp Lys Arg Thr
1 5 10 15

Gln Phe Trp Arg Tyr Phe Ala Gly Asn
20 25

<210> 313

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 313

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly Asp Arg His Lys

1 5 10 15

Gln Phe Trp Arg Tyr Phe Pro Gly Asn

20 25

<210> 314

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 314

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly Asp Lys His Thr

1 5 10 15

Gln Phe Trp Arg Tyr Phe Pro Gly Asn

20 25

<210> 315

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 315

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly

1 5 10

<210> 316

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 316

Ala Cys Asp Cys Arg Gly Asp Cys Phe Cys Gly Gly

1 5 10

<210> 317

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 317

Arg Lys Lys Arg Arg Gln Arg Arg Arg Asp Lys Arg Thr Gln Phe Trp

1 5 10 15

Arg Tyr Phe Ala Gly Asn

20

<210> 318

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 318

Arg Lys Lys Arg Arg Gln Arg Arg Arg Asp Lys Arg Thr Gln Phe Trp

1

5

10

15

Arg Tyr Phe Pro Gly Asn

20

<210> 319

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 319

Arg Lys Lys Arg Arg Gln Arg Arg Arg Asp Arg His Lys Gln Phe Trp
1 5 10 15

Arg Tyr Phe Ala Gly Asn
20

<210> 320

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 320

Arg Lys Lys Arg Arg Gln Arg Arg Arg Asp Lys His Thr Gln Phe Trp
1 5 10 15

Arg Tyr Phe Ala Gly Asn

20

<210> 321

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 321

Arg Lys Lys Arg Arg Gln Arg Arg Arg

1 5

<210> 322

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 322

Arg Lys Lys Arg Arg Gln Arg Arg Arg

1 5

<210> 323

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 323

Arg Lys Lys Arg Arg Gln Arg Arg Arg Leu Ala Ser Gly Gly Ala Ala

1 5 10 15

Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu

20 25

<210> 324

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 324

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Ala Trp Ser Asn Val Leu

1 5 10 15

Arg Gly Met Gly Gly Ala Phe Val Leu Val Leu Tyr

20 25

<210> 325

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<223> N-term biotin

<400> 325

Arg Lys Lys Arg Arg Gln Arg Arg Arg

1

5